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GLOBAL MONETARY ORDER: 1992 AND BEYOND

Manuel H. Johnson	Monetary Policy in an Integrated World Economy
Jerry L. Jordan	Restructuring Financial Institutions in a Global Economy
Peter J. Ferrara	International Trends in the Combination of Banking, Securities, and Commerce
Mervyn K. Lewis	Banking, Securities, and Commerce: A European Perspective
Pedro Schwartz	The Single European Financial Market
Pascal Salin	The Choice of Currency in a Single European Market *Comments by* **Lawrence H. White** and **Geoffrey E. Wood**
Michele Fratianni and Juergen von Hagen	Public Choice Aspects of European Monetary Unification *Comments by* **Georg Rich** and **Roland Vaubel**
Kevin Dowd	Does Europe Need a Federal Reserve System? *Comments by* **Anna J. Schwartz** and **George A. Selgin**
Allan H. Meltzer	Some Empirical Findings on Differences between EMS and Non-EMS Regimes: Implications for Currency Blocs
Peter Bernholz	Institutional Requirements for Stable Money in an Integrated World Economy *Comment by* **Herbert Giersch**
Antonio Martino	A Monetary Constitution for Europe? *Comment by* **Gordon Pepper**
W. Lee Hoskins and Owen F. Humpage	Avoiding Monetary Protectionism: The Role of Policy Coordination *Comment by* **William A. Niskanen**
Yoshio Suzuki	Autonomy and Coordination of Monetary Policy in a Global Economic Order

VOLUME 10 NUMBER 2 • PUBLISHED BY THE CATO INSTITUTE • FALL 1990

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The CATO JOURNAL is indexed and abstracted in the *Journal of Economic Literature, Current Contents/Social and Behavioral Sciences, Social Sciences Citation Index, America: History and Life, Historical Abstracts,* and the **ABI/INFORM** data base. The CATO JOURNAL is available on microfilm from University Microfilms International, Ann Arbor, MI 48106.

Printed in the United States of America.

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CATO JOURNAL • VOLUME 10 NUMBER 2 • FALL 1990

GLOBAL MONETARY ORDER: 1992 AND BEYOND

Introduction 303

Manuel H. Johnson
Monetary Policy in an Integrated World Economy 307

Jerry L. Jordan
Restructuring Financial Institutions in a Global Economy 315

Peter J. Ferrara
International Trends in the Combination of Banking, Securities, and Commerce 329

Mervyn K. Lewis
Banking, Securities, and Commerce: A European Perspective 347

Pedro Schwartz
The Single European Financial Market 357

Pascal Salin
The Choice of Currency in a Single European Market 363

Comments by **Lawrence H. White** 377
Geoffrey E. Wood 381

Michele Fratianni and Juergen von Hagen
Public Choice Aspects of European Monetary Unification 389

Comments by **Georg Rich** 413
Roland Vaubel 419

Kevin Dowd
Does Europe Need a Federal Reserve System? 423

Comments by **Anna J. Schwartz** 443
George A. Selgin 449

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Allan H. Meltzer
Some Empirical Findings on Differences between EMS and Non-EMS Regimes: Implications for Currency Blocs 455

Peter Bernholz
Institutional Requirements for Stable Money in an Integrated World Economy 485

Comment by **Herbert Giersch** 513

Antonio Martino
A Monetary Constitution for Europe? 519

Comment by **Gordon Pepper** 535

W. Lee Hoskins and Owen F. Humpage
Avoiding Monetary Protectionism: The Role of Policy Coordination 541

Comment by **William A. Niskanen** 557

Yoshio Suzuki
Autonomy and Coordination of Monetary Policy in a Global Economic Order 565

OTHER ARTICLES

Daniel Landau
The Pattern of Economic Policies in LDCs: A Public Choice Explanation 573

John P. Speir
Efficiency Implications of the Sindell–Rexall Rule 603

BOOK REVIEWS

Cross of Gold: Money and the Canadian Business Cycle, 1867–1913
Georg Rich

Reviewed by **Hugh Rockoff** 609

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Money: Lectures on the Basis of General Equilibrium Theory and the Economics of Institutions
Rudolf Richter

Reviewed by **Kevin D. Hoover** 611

The Political Economy of James Buchanan
David Reisman

Reviewed by **William Breit** 613

Black Hole Tariffs and Endogenous Policy Theory
Stephen P. Magee, William A. Brock, and Leslie Young

Reviewed by **Robert D. Tollison** 615

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ELECTRONIC REPRODUCTION PROHIBITED

INTRODUCTION

GLOBAL MONETARY ORDER: 1992 AND BEYOND

James A. Dorn

> Most economists recognize the mutual incompatibility of fixed exchange rates as maintained under the current European Monetary System (EMS), free capital mobility as sought by the single-market objective, and national monetary sovereignty. The EEC [European Economic Community] will face a choice: sacrifice one of these three to protect the other two.
>
> —W. Lee Hoskins (1989, p. 1)

Monetary Stability in an Integrated World Economy

Most of the papers in this volume were first presented at the Cato Institute's eighth annual monetary conference, "Global Monetary Order: 1992 and Beyond," which was cosponsored with the Institute of Economic Affairs in London, February 22–23, 1990. By carefully considering the central issues facing policymakers in the creation of a single European market, the contributors to this volume shed further light on the consequences of alternative monetary regimes and help determine the conditions necessary for achieving global monetary order.

The movement toward a single European market is part of an ongoing globalization of money, commerce, and finance. A number of key issues are raised by the globalization process, one of the most important being how to achieve monetary stability in an integrated world economy. With the dismantling of capital controls and the liberalization of trade in Europe by the end of 1992, Europeans will

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have to decide on the future shape of their monetary institutions and exchange rate regime.

The present European Monetary System, in which members tie their currencies to the D-mark but make periodic adjustments, will not be viable once all capital controls are lifted. Europe will have to decide whether it wants to follow the Delors blueprint for a common currency and a European central bank or whether it wants to take a more liberal approach and let competition among national (and private?) currencies determine the best money (or moneys) for Europe.

In theory, monetary stability could be achieved by having a single currency for Europe controlled by a European central bank. But, in practice, a super-national central bank is unlikely to be any more successful than national central banks in bringing about stable money. Public choice theory points to the inherent instability of discretionary monetary (and fiscal) regimes, and gives one little confidence in leaving the fate of money and markets to nation states, let alone to international organizations—whether in Brussels or Washington. (Should greater credence be given to a European central bank than to the Federal Reserve System? Should we trust bureaucrats in Brussels more than those in Washington?)

As long as the monetary authority has discretionary power over a fiat money, one should not expect long-run price stability. The relevant question is, can we do better by moving to an alternative monetary regime? If we are to answer this question, it is necessary to consider the possibility of adopting a monetary constitution for Europe—one that would liberalize money by constraining the monetary powers of government.

A Monetary Constitution

The choice of a monetary constitution implies a choice among possible monetary rules, of which there are many. Europe could adopt a real gold standard with fixed exchange rates; it could move to freely floating exchange rates and let market forces—plus a selected rule such as a price rule, a nominal demand rule, or a money growth rule—discipline national monetary authorities; it could develop a new currency defined in terms of a commodity bundle and provide for convertibility on demand; or it could allow the evolution of whatever monetary institutions the people of Europe freely choose.

Whatever choice is finally made, it is important to first consider the implications of the various monetary regimes. The tunnel vision

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that characterizes the Delors Report's approach to monetary unification blocks out competing visions that are more consistent with the European cultural diversity and freedom of choice that are supposed to characterize the new European order.

Experience has taught us to be wary of government power; it has also taught us that without constitutional constraints, the state is almost sure to grow in ways that undermine individual sovereignty—not the less so by debasing the value of money and interfering with the free-market process. Another key issue discussed in this volume, therefore, is how to implement and maintain an economic constitution that will provide for the liberalization of money and markets.

Competing Visions of the Unification Process

The planning mentality that characterizes much of the Delors Report assumes that coordination and order can be generated only from the center, a view that conflicts with the liberal vision of a spontaneous market order arising from the voluntary decisions of individuals within a system of private property and a rule of law. These two visions—one of a planned European order and the other of an unplanned, spontaneous order—underlie the current debate over the future of European economic and monetary unification. If power is lodged in Brussels and European policy coordination is directed from the center, then European unity of the Delors variety will limit the policy competition and spontaneous coordination that could otherwise occur through voluntary agreements. Thus, at the heart of the discussion over the economic and monetary unification of Europe is the question of the role of government in a free society.

Whether Europe emerges as a freer, more liberal, *economic* system will depend in large part on the *politics* of unification. If the political process leads to a new constitution of liberty for Europe—so that individuals will be free to choose where to trade, invest, and work, and what money to use as a medium of exchange—then Europe will prosper along with its trading partners. But if politics as usual dominates, then a fortress Europe could emerge with a new bureaucracy, and possibly a powerful, discretionary European central bank. In this case, neither Europe nor the world are likely to benefit from the unification process.

Reference

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Monetary Policy in an Integrated World Economy

Manuel H. Johnson

The revolutionary changes occurring in Europe and elsewhere raise the important question of how to achieve monetary stability in an increasingly integrated world economy. In addressing this issue, I shall focus on the formulation and implementation of monetary policy by central banks in a more deregulated, more globally integrated financial system.

The Current Monetary and Financial Environment

The major trading regions of the world generally operate under a fiat money, flexible exchange rate regime. Admittedly, currency arrangements appear to be evolving into a system of multipolar currency blocs, so the term "flexible" is used advisedly; perhaps "dirty" or "managed" float would be more appropriate. There is little doubt that a good deal of (largely sterlized) intervention has occurred in recent years. Nonetheless, there can also be little doubt that exchange rates between major trading regions move all too frequently and often by substantial magnitudes. Exchange rate movements certainly play a large role in the transmission of changes in monetary policy as well as in the balance-of-payments adjustment mechanism. Nonetheless, reserve holdings have actually increased, despite the belief by some that reserve holdings would decline when exchange rates were allowed to float. In particular, the dollar

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The author is Koch Professor of International Economics and Director of the Center for Global Market Studies at George Mason University. He also serves as Co-Chairman of the G7 Council and is Senior Partner at Johnson Smick International, Inc. He presented this paper as the opening address at the Cato Institute's Ninth Annual Monetary Conference, February 22, 1990, in London, at which time he was Vice Chairman of the Board of Governors of the Federal Reserve System.

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continues to serve as a key reserve currency under current international monetary arrangements.

We live in an increasingly integrated and deregulated financial system. Revolutions in telecommunications and information processing have dramatically lowered the costs of acquiring, disseminating, and processing information and undoubtedly have quickened the pace of the integration process. These revolutions fostered a host of financial innovations that enabled price, geographic, and product regulations of financial services to be readily circumvented. In so doing, these advances promoted the deregulation of financial services, which allowed both financial markets and, more generally, the entire market system to function more efficiently.

These developments have literally changed the world; no part of the world, not even the centrally planned economies, has escaped the effects of these changes. Indeed, the vast improvements in the workings of market-based systems underscored the increasing problems of centrally planned economies. The growing production of both information and knowledge has contributed to an increasingly complex world and made it more obvious that such information and knowledge is, by its very nature, decentralized and dispersed. As the socialist-calculation debate of the 1930s demonstrated, market-based systems are necessarily more efficient at processing and transmitting information about relative supply-and-demand conditions and providing incentives to produce and distribute desired goods and services.

Characteristics of a More Integrated World Economy

Larger and More Rapid Flows of Money and Financial Capital

An important characteristic of this environment is the increasingly large and rapid flow of money and financial capital. Capital flows, for example, have increased dramatically in recent years, and such capital transfers occur more quickly; many financial adjustments or provisional payments settlements can now occur almost instantaneously. Furthermore, these movements occur continuously, with foreign exchange and some futures markets operating 24 hours a day around the globe. Currency substitution has not yet been empirically important in the industrialized world, but this could change. It has already been recognized that these substantial capital flows may be so potent that they now drive trade flows rather than the other way around.

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Portfolio adjustments within national borders and between various domestic financial markets have also become large and rapid. Individuals and corporations can easily and quickly move huge sums of money and financial capital between various financial instruments and financial markets. As illustrations, one need only mention the advent of various money market mutual funds or stock index futures and program trading.

Greater Interdependence of Financial Markets

Another important characteristic of an increasingly integrated financial environment is that financial markets have become more interdependent and less separate and segmented. National economies are now more influenced by international factors, and economies are becoming increasingly open; the only truly closed economy is the world economy. In this environment, prices of financial assets, traded goods, and interest rates have become increasingly interrelated and can even move in unison, depending on the exchange rate regime.

For example, on October 19, 1987, we witnessed the simultaneous and nearly instantaneous "adjustment" of world equity prices. Recently, inflation rates of many large industrial economies have tended to converge as the desire for exchange rate stability has led to more coordinated monetary policies.

An implication of the greater independence of world financial markets is that the United States is no longer the overwhelmingly dominant player it was immediately after World War II. Accordingly, the actions or policies of other significant players now have greater spillover effects on U.S. markets, either through movements in the exchange rate or in other financial asset prices. Research has shown, for example, that the variability of exchange rates, commodity prices, bond prices, and equity prices has been significantly greater during the last several years relative to the earlier postwar period. More than likely, this increased volatility was the result of more efficient information processing and greater international financial integration, combined with variances in domestic monetary policy goals among industrial countries.

Implications for Monetary Policy

Several major implications for monetary policy arise from the greater financial integration of the global economy. These implications relate to (1) the appropriate data for use as monetary policy indicators or guides, (2) the appropriate anchor for the system, and (3) the coordination of monetary policy.

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Appropriate Data for Use as Monetary Policy Indicators or Guides

The information requirements of a monetary authority operating in a global economy are monumental. In order to conduct appropriate policies in a rapidly changing environment, central banks must have information that is relevant, reliable, and available. Because monetary policy necessarily relates to the future, forward-looking information is essential. Yet, we live in a complex world of vast information needs where knowledge is decentralized and highly disaggregated. Accordingly, mechanisms are needed that work to summarize or aggregate diffused data to make it useful for policymakers.

Because financial integration and deregulation have fostered large and rapid flows of financial capital, the timely and accurate compilation and measurement of such financial quantity variables have proven to be difficult and elusive. Current measures of money, particularly narrow transactions balances, have been much less reliable than was earlier the case.

In a rapidly changing world, the time-consuming and cumbersome process of collecting and compiling large amounts of data on the quantity of money and financial capital is not likely to be the most effective way of summarizing and aggregating information or of obtaining timely and accurate data on which to base policy decisions. Measures of the quantity of money and financial capital, after all, are necessarily based on samples. Accordingly, such quantity data are subject to revisions and rebenchmarks that can often be substantial. Also, sampling techniques take time, so there is an inherent lag in the reporting of such data. Because financial flows move rapidly, quantity measures are often outdated and sometimes obsolete by the time they are compiled and published. Measures of international financial capital movements, for example, are notoriously inaccurate and are sometimes published only months after they occur.

International money and capital flows are not the only forms of financial flows that have become more difficult to measure. The proliferation of transactions instruments associated with deregulation, together with the ease of portfolio adjustments, has also made it difficult to measure various domestic financial variables. It is well known, for example, that the accurate measurement of narrow transactions balances has proven to be illusory. In part because of such measurement difficulties, narrowly defined monetary aggregates (such as M1) have become much less useful as guides to monetary policy.

There are still other problems with quantity data. To be useful, quantity data must be seasonally adjusted. And should redefinitions

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of variables occur due, for example, to deregulation, technological changes, or institutional developments, the altered measurements and changed behavior of particular variables can be substantial. In sum, there are significant measurement, timing, and sometimes definitional problems associated with the use of sample-based quantity data, particularly in our rapidly changing and increasingly integrated financial system.

Price data—specifically price data from centralized auction markets, such as bond, foreign exchange, and commodity markets—have a number of advantages for use as policy guides. To understand why this is the case, it is useful to remember that financial market prices are summaries or aggregators of information embodying the knowledge and expectations of large numbers of buyers and sellers who have incentives to make informed decisions in an uncertain world. Active competitive markets are a mechanism that efficiently absorbs and processes dispersed information.

As a consequence of this property, financial market prices (such as exchange rates, commodity prices, and bond prices) provide useful information. Furthermore, they are timely and readily available literally by the minute. They are accurate; less subject to sampling error; and not subject to revisions, rebenchmarks, seasonal adjustments, or "shift-adjustments" that often plague quantity data.

Because market prices embody expectations of the future, they are inherently forward-looking, offering a distinct advantage over any form of quantity data. This is a particularly important quality for monetary policymakers, who are necessarily forward-looking in their decisions.

Because financial market prices are forward-looking, they contain information about inflation expectations. For example, if the markets consider monetary policy to be too easy, based on the observations of thousands of traders, then commodity prices and bond rates will be bid up to command an inflation premium and the exchange rate will depreciate to account for the reduced purchasing power of the currency.

In addition to being useful in the normal conduct of monetary policy, market price indicators are also quite useful for monetary authorities in financial crises when lender-of-last-resort responsibilities become relevant. It is in these circumstances that many forms of monetary or reserve aggregates often prove to be particularly misleading for two important reasons. First, demands for liquidity can change quickly and dramatically. Demands for currency, excess reserves, and other quality assets, for example, often increase sharply. In this case, the quantity of reserves or narrow transactions

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aggregates are often misleading guides to policy. Second, changes in demand for these instruments often occur literally by the hour. In such situations, quantity data are obsolete by the time they are compiled or published.

Market price data, however, are readily available minute by minute. Lender-of-last-resort policy decisions during a financial crisis are necessarily made quickly. The data essential to support such decisions, therefore, must be readily available and timely. Quantity data (such as the monetary or reserve aggregates) are ill suited for these circumstances, whereas market price data are eminently appropriate.

Sharp decreases in Treasury bill and bond yields, for example, could signal a flight to quality as well as work to flatten or invert the Fed funds/Treasury bond yield spread. And dollar depreciation or appreciation could occur depending on the national or international nature of the financial crisis. In short, key market prices may immediately signal the need for an increased supply of central bank liquidity. In such circumstances, these prices may provide correct and timely signals to the central bank. Other market price data, such as "quality spreads," bank stocks, and even gold prices, may also yield useful and timely information.

In an analogous manner, market price data may prove to be useful by yielding timely and accurate information in the transition to a monetary union, as in the case of East and West Germany. Movements in West German long-term interest rates as well as in both Deutsche mark exchange rates and commodity prices, for example, may indicate whether the supply of money and reserves is accommodating rapidly changing demands for Deutsche marks in a noninflationary manner.

An Appropriate Monetary Anchor

A nominal anchor is essential under any fiat money, flexible exchange rate regime. Accordingly, market price guides should be linked to a price stabilization objective. For example, any sustained rise in nominal bond yields and commodity prices combined with a general weakening in the exchange rate would very likely signal rising inflation expectations. This would suggest to the central bank a need for higher call money rates to avoid an increase in the general price level. Such policy adjustments would be continually monitored against evidence of general price stabilization, which would provide the ultimate anchor to the system. Of course, it is essential that this objective should be both an announced and credible goal. Because inflation is positively correlated with increased volatility in financial

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markets, policies aimed at producing a stable price environment will likely contribute to ensuring that such volatility is lower than would otherwise be the case. Also, it is important that price stabilizing monetary policies become the common objective of the major industrialized countries; coordination efforts toward the goal of price stability can contribute significantly to reduced volatility of exchange rates and other relative financial market prices.

Coordinated Monetary Action

It is also becoming obvious that the goal of price stabilization cannot be effectively achieved without significant changes in exchange rates and possibly the balance of payments. In our increasingly integrated global financial system, cooperation among the major economies becomes more and more important. Whether we like it or not, such cooperation is essential in order to avoid extreme financial volatility and potentially disruptive shifts in international capital flows.

As a consequence, central bank policies designed to coordinate price stabilization across countries deserve strong support. Nonetheless, flexibility is still appropriate. In particular, countries should have the flexibility to insulate themselves from external shocks and from irresponsible policies pursued elsewhere. Otherwise, such shocks or policy mistakes could be transmitted across bond markets and stock markets of all major countries. However, since movements in exchange rates now play such an important role in the transmission of monetary policy, they cannot be ignored. And coordinating monetary policies with a price stability anchor should go a long way toward reducing excessive exchange rate volatility.

Conclusion

Monetary policymakers operate under a fiat money, roughly flexible exchange rate regime. The current environment can be characterized as an integrated, deregulated, global financial system where information is dispersed and decentralized. This environment produces large, rapid, and continuous adjustments of money and financial capital. Increased economic integration means that domestic financial markets have become much more sensitive to international forces.

There are several important policy implications of these developments. The many advantages of financial market price information suggest that these prices are more appropriate for use as policy guides

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than as quantity variables. A price-stability anchor is essential under a fiat money, flexible exchange rate regime. And, finally, because the world is becoming increasingly integrated, coordinated monetary policy action is desirable.

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Restructuring Financial Institutions in a Global Economy

Jerry L. Jordan

During the 1980s, governments began to retreat from regulation of the financial services industry. The retreat promises to be just as dramatic and enduring as developments during the worldwide depression of the 1930s. Although pressures for re-regulation have emerged, especially in the United States, international competitive forces are accelerating the movement toward less governmental intrusion.

The Great Depression gave rise to the corporate state and an almost universal increase in the size and scope of governmental involvement in economic affairs and in other aspects of our lives. For much of the past 50 years, governments have either owned or regulated all financial institutions that provided intermediary services. Elaborate regulatory systems, based on permission and denial approaches to administrative law, were expected to rule on which products or services could be offered, where they could be offered, and what prices or interest rates could be paid or charged to customers.

At least in the United States, there was little in the way of due process in the financial regulatory system. Regulatory agencies have operated as executive authorities that were largely immune from the discipline of the checks and balances inherent in a political system built on a framework of separation of powers. The costs associated with burden of proof were borne by the regulated, not the regulators. When a financial institution wanted to offer a new product or service, expand its market area, or combine with another institution, the regulators required it to bear the costs of demonstrating that the benefits outweighed the costs. In other words, "If you have to ask, the answer is no."

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The author is Senior Vice President and Chief Economist of First Interstate Bancorp. He is a former member of the President's Council of Economic Advisers.

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The violation of rule-of-law principles in this system is illustrated clearly by the Federal Reserve's previous prohibition of foreign-currency denominated deposits at U.S.-domiciled institutions. A large bank requested permission to offer such deposits but received a letter from the chairman of the Board of Governors of the Federal Reserve System denying the request. No law or regulation prohibited such deposits, no congressional hearings were held to assess the proposal, and there was no public discourse on the benefits that would accrue to individuals. A simple letter of denial from a regulator was sufficient to preclude the offering of such a service. This case clearly reveals the potential for abuses in the present system of administrative law.

Dismantling a Statist Regime

The trend toward deregulating financial services in many countries is a source of optimism about the course of events in the final decade of the 20th century. Technology and innovation have played major roles in creating pressures for deregulation. As Senator Jake Garn (R.-Utah) warned in the early 1980s, "We had better hurry up and deregulate the banking industry before it deregulates itself." In addition, the general disillusionment with collectivist approaches to economic organization during the 1980s improves the atmosphere in which free-market arrangements can be discussed.

Globalization of *goods markets* gained momentum during the 1980s, as world trade volume grew at twice the rate of total output. Globalization of *financial markets* was enhanced by less-expensive communications. Globalization of *asset portfolios* now includes real estate as well as common equities and debt instruments denominated in various currencies. All of this has given rise to supra-national enterprises that operate in market areas that are much larger than the geographical boundaries of nation-states. In recent years, the trading of financial instruments began to operate on a 24-hour clock, with the resulting linkage of major debt and equity markets.

Given the state of technology and the costs of communication and transportation during the 19th and early 20th centuries, political borders often included much larger territory than did market areas for most goods and services. But for a growing number of services, such as transportation, communications, and finance, the economically efficient market area is much larger than the domain of any one or even several contiguous nation-states. Consequently, the political control of such economic activity by any one country's regulatory authorities is becoming less feasible.

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Prior to the 1970s, services provided by depository financial institutions in the United States were largely restricted to individual states, and sometimes even to single counties, cities, or locations. Such restrictions became increasingly difficult to maintain as technological innovations brought down the cost of providing financial services, so that larger and larger market areas could be served efficiently. Although some critics of this trend toward the deregulation of financial services complained of competitive laxity among rival regulators, each trying to favor its own constituent regulatees, it was impossible to resist the technological imperative toward a broader geographic area of financial markets.

As we enter the 1990s, the same competitive pressures that started to bring an end to prohibitions of interstate banking, interest rate controls, and various segments of the financial industry in the United States are at work on a global basis. The result will be a substantially less regulated, if not totally deregulated, financial sector, operating on a global scale as the 21st century gets under way. As U.S. Comptroller of the Currency Robert Clarke recently asserted, "In the emerging global economy, I believe there are two types of markets: world class and second class."

Financial Institutions in a Laissez Faire World

It may be useful to contemplate what the financial services industry would look like today if there were no governmental involvement. First of all, artificial political boundaries, such as state or provincial lines or even national borders, would not serve as barriers to the efficient provision of financial services. There would be no usury or other interest rate ceilings or floors; no quantitative or qualitative controls on the types or amounts of credit that could be extended; no limitations on or segmentation of maturities of various financial instruments; no prohibitions on the currencies in which financial assets and liabilities could be denominated; no legal reserve requirements imposed on either assets or liabilities of financial institutions; and no minimum capital requirements, margin requirements, or other regulatory restraints on the degree of leverage that could be employed. Also, governments would not create moral-hazard problems by compelling their taxpayers to provide deposit insurance.

Some financial institutions would choose to be supermarkets of financial services offering a wide array of savings and transactions instruments and forms of credit extension, as well as brokerage, underwriting, and insurance services. Other institutions would choose to position themselves as specialists in one or a few products

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or financial services. Boutique institutions would serve only a local market and provide only certain specialized services, and large global networks would offer an essentially generic array of services on a high-volume, low-margin basis. The choice of location of the headquarters of these global institutions would be a function of tax laws and the efficiency and reliability of the legal system in contract enforcement. Supra-national institutions would not be identified by the national location of their headquarters, as in Japanese banks or French banks, since such characterizations would have no relevance to the consumers of the financial services offered by the institution.

Universal banks would offer a very extensive menu, including:

1. Various payment services, including not only demand or sight deposits but also credit cards, debit cards, traveler's checks, "smart cards," and money orders—all available in the currency units requested by the consumer; with various pre-authorized and individually initiated electronic payments and transfers included among the payments services;
2. Various instruments acting as stores of value, such as deposits of various yields and maturities denominated in various currencies, mutual funds (including equity or debt instruments), and a variety of interest rate or exchange rate, risk-hedging instruments, such as futures contracts, options, and swaps;
3. Brokerage-type services for acquiring or managing asset portfolios; advice on and facilitation of the administration of every aspect of personal portfolio management other than current consumption transactions;
4. Financial services for businesses, such as those currently offered by commercial banks, investment banks, merchant banks, leasing companies, and securities firms;
5. Insurance and real estate advisory and brokerage services;
6. Financial trading services, including equities, debt instruments, and foreign currencies; trading in commodities, including risk-hedging instruments.[1]

In some countries, a financial company currently offers many of these products and services, either under a universal bank charter or as part of a holding company of financial firms. Subsidiaries of U.S.

[1]A good summary of actions taken to deregulate financial services at the national level is provided in *Competition in Banking* (Broker 1989). Unfortunately, the OECD publication calls for "regulation at international level" (pp. 98–99). The "Functional Classification of Financial Services Markets" (Annex 1, pp. 107–8) is very useful and is a more detailed classification than provided here.

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banks operating in foreign countries can offer services they are not permitted to offer in the United States.[2]

Even though governments may continue to monopolize the issuance of national fiat currencies within their political domains, individuals and businesses will want to hold financial assets, including transactions balances, in various other currencies. In the future, we will see a growing menu of demand or sight deposits, savings balances, negotiable and marketable instruments, and mutual funds denominated in currencies other than the legal tender or currency units of the country where the financial institution is domiciled. In 1989, banks in OECD countries reported liabilities to their own residents denominated in foreign currencies equivalent to more than $800 billion. That amount, of course, does not include foreign currency–denominated liabilities of banks domiciled in the United States, since such balances were prohibited before January 1, 1990. In recent years, mutual funds of assets denominated in foreign currencies have become more common. Increasingly, individuals will want to have the flexibility of receiving or making payments, as well as holding earning assets, in currencies other than those issued by their home-country monetary authorities.

The potential for privately issued electronic currency is starting to be developed in the form of smart-card technologies. Electronic currency is created when a microdot records a claim on an issuing institution that can be electronically transferred to other parties. The balance recorded in the microdot represents a claim on the issuing bank, which is, in effect, private currency. This privately issued money competes with the paper and coin issued by central banks and treasuries of governments. Although such balances will initially be denominated in a national currency, such as dollars, francs, yen, marks, or pounds, the outstanding float is an addition to the circulating media of exchange. Currently, travelers' checks issued by Thomas Cook, American Express, a few large European banks, and bank card companies serve a similar function of privately issued media of exchange, denominated in the unit of account of a major nation.

Technology already exists for the payment received by a seller or borrower to be different from the currency paid by the buyer or lender. This is true not only in the case of large business transactions but also in the case of relatively small transactions of individuals, facilitated by credit cards, debit cards, and travelers' checks. With

[2]For a survey of permissable activities for banking organizations in selected countries, see Institute of International Bankers (1988).

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the elimination of capital and exchange controls and an end to the prohibitions of balances denominated in foreign currencies and of the holding and usage of credit cards issued by foreign-domiciled banks, an individual living in Rome can authorize payment from a U.S. dollar account in a Frankfurt bank to be paid in pounds to a hotel in London.

Although governments still monopolize the legal tender and units of account, they do not monopolize accepted media of exchange denominated in such units. Privately issued media, such as sight or demand deposits of banks or travelers' checks, are acceptable as a means of payment even though they are denominated in foreign currency units. Increasingly, competing currencies will become a significant dimension of the global financial system. The prescription that "high confidence money drives out low confidence money" will impose market-driven discipline on the issuance of fiat currency units.

Financial Institutions and Economic Development[3]

The historical contribution of the financial system to the progress of today's Western industrial economies is widely acknowledged. The role of financial institutions and the financial system in economic development has also been studied extensively with regard to less-developed economies of the world. A study released in 1989 by the World Bank regarding financial systems and development was directed at the circumstances in less-developed countries in Latin America, Asia, and Africa. The analysis applies equally well to industrial countries and the reforming countries in Eastern Europe.

To quote from the World Bank study: "A financial system provides services that are essential in a modern economy. . . . Access to a variety of financial instruments enables economic agents to pool, price, and exchange risk. Trade, the efficient use of resources, saving, and risk-taking are the cornerstones of a growing economy" (World Bank 1989, p. 1).

The study notes: "In recent years financial systems came under further stress when, as a result of the economic shocks of the 1980s, many borrowers were unable to service their loans. In more than twenty-five developing countries, governments have been forced to assist troubled intermediaries. The restructuring of insolvent intermediaries provides governments with an opportunity to rethink and reshape their financial systems. . . . Conditions that support the

[3]This section draws on the analysis and conclusions presented in Jordan (forthcoming).

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development of a more robust and balanced financial structure will improve the ability of the domestic financial systems to contribute to growth" (World Bank 1989, p. 1).

The World Bank study goes on to stress the importance of an efficient financial system (p. 25):

> Financial systems provide payment services. They mobilize savings and allocate credit. And they limit, price, pool, and trade the risks resulting from these activities. These diverse services are used in varying combinations by households, businesses, and governments and are rendered through an array of instruments (currency, checks, credit cards, bonds, and stocks) and institutions (banks, credit unions, insurance companies, pawnbrokers, and stockbrokers). A financial system's contribution to the economy depends upon the quantity and quality of its services and the efficiency with which it provides them.
>
> Financial services make it cheaper and less risky to trade goods and services and to borrow and lend. Without them an economy would be confined to self-sufficiency or barter, which would inhibit the specialization in production upon which modern economies depend. Separating the time of consumption from production would be possible only by first storing goods. The size of production units would be limited by the producers' own capacity to save. Incomes would be lower, and complex industrial economies would not exist.

The report stresses that "*finance is the key to investment and hence to growth*. Providing saved resources to other and more productive uses for them raises the income of saver and borrower alike. Without an efficient financial system, however, lending can be both costly and risky" (p. 25, emphasis added).

Finally, the World Bank study concludes: "Competition ensures that transaction costs are held down, that risk is allocated to those most willing to bear it and that investment is undertaken by those with the most promising opportunities" (p. 25). Applying these principles to a survey of countries around the world, World Bank researchers concluded: "The biggest difference between rich and poor is the efficiency with which they have used their resources. The financial system's contribution to growth lies precisely in its ability to increase efficiency" (p. 26).

According to the World Bank study, the reason for this result is that "even though the financial system intermediates only part of the total investable resources, it plays a vital role in allocating savings" (p. 29). That is because "smoothly functioning financial systems lower the cost of transferring resources from savers to borrowers, which raises the rate paid to savers, and lowers the cost to borrowers. The ability of borrowers and lenders to compare interest rates across markets improves the allocation of resources" (p. 29).

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Deposit Insurance, Capitalization Standards, and Reserve Requirements in the United States

If it is accepted that a strong and competitive financial services industry contributes to real economic growth, then it would seem that governmental regulations and supervision of financial institutions would be designed to foster stability and strength. Although that may be the intent, however, it is not always the result, particularly in the United States. During the past decade, the moral hazard problems associated with the deposit insurance system, in conjunction with inadequate capitalization of institutions in the thrift industry, created a nightmare for the U.S. financial industry.

Deposit Insurance Reform

Recent legislation affecting the thrift industry in the United States addressed the capital standards issue of savings-and-loan associations (S&Ls) but only mandated a *study* of the deposit insurance part of the problem. Correcting the flaws in the U.S. federal deposit insurance system is essential to achieving the long-term stability of the financial industry. Among the reform proposals under discussion, something similar to the British system has considerable merit. Within the $100,000 limit—which should be per person, not per account—the first $25,000 would be 100 percent federally insured; the remaining $75,000 would be co-insured by the government and private insurers. Alternatively, a depositor might decline insurance on part of the $75,000 and avoid the private insurance premium in favor of a higher interest rate.

A new idea presented by Fred L. Smith and Melanie Tammen (1989) is intriguing. The total amount of governmentally insured deposits would be capped as of a certain date, with each depository institution grandfathered as to the amount of insured deposits to which it is initially entitled. A secondary market for federally insured deposit rights might be allowed to develop. In order to issue more deposits than are governmentally insured, an institution would purchase rights from another institution, which would then be obligated to reduce its outstanding insured liabilities.

Capitalization Standards

Banking industry regulators in the United States and 11 other countries have agreed to minimum capitalization standards for banks. The objective of the U.S. bank regulators in negotiating such standards is to force banking companies to raise additional investment capital in their institutions.

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The managerial response by some under-capitalized institutions, however, has been to constrain the growth of assets or to sell assets whose current market value exceeds book value in order to record an increase in book capitalization. Such actions are causing an increase in the relative concentration of bad assets in some of the weaker institutions. Currently, regulators do not permit marking-to-market and do not count as net worth the appreciation in market valuation of asset holdings, nor do they require the writing down of assets when market value is less than book value. The emphasis on book-value accounting measures of financial capital creates an incentive to sell the strong assets and retain the weak ones, thereby creating the illusion of greater capitalization than actually exists.

This regulatory emphasis on capital derives from government-supplied deposit insurance and the potential loss to taxpayers that is associated with guaranteeing depositors against loss. Fixing the problem of deposit insurance would also promote clearer thinking about capital adequacy.

International agreements among central banks and the desire to achieve a "level playing field" among international banking organizations may continue to be used by governments to justify minimum capital standards imposed on depository institutions in the future. There is no justification, however, for imposing those same requirements on holding companies in the financial services industry. The Basle Accord should be applied at most to the banking subsidiaries of the financial institution.

Reserve Requirements

An associated problem in the United States (and a few other industrialized countries) is the minimum reserve requirements on transactions liabilities that regulators have imposed on all depository institutions. In effect, these requirements serve as a franchise tax on the right to provide transactions services. The amount of the tax is equal to the foregone income on minimum reserve balances that is in excess of the level desired for clearing purposes; returns on equity and assets are thus impaired by regulation.

The intent behind minimum reserve balances was to provide both an adequate cushion in the event of adverse clearing drains and a liquid balance that could be used in the event of a run on deposits at a particular institution. Because the depository institution is legally required to hold such balances at the Federal Reserve, however, even when the deposits have already been withdrawn under a lagged accounting system, reserve balances do not provide liquidity. An especially misguided development in the United States was the

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lagged reserve accounting system that was in place from 1969 until the Depository Institutions Deregulatory and Monetary Control Act of 1980 mandated a system of simple, contemporaneous, more uniform, and universal reserve requirements.

As experience has amply demonstrated, legal minimum reserve balances are neither necessary nor sufficient for the conduct of a stable monetary policy. Further, they have not provided liquidity in cases of deposit drains at large or small institutions. They have impaired the earnings of depository institutions, so that excessive reserve requirements have contributed to the safety and soundness problems of the financial industry.

Legal minimum reserve balances failed to ensure bank solvency during the runs on banks during the 1930s, largely because the central bank did not perform its lender-of-last-resort function. Consequently, deposit insurance was invented to prevent runs, but that development created the problem of moral hazard. Some regulators, therefore, think that minimum capital standards will strengthen the financial system. Other regulators imagine that mandating higher loan-loss reserves will provide the cushion they desire to protect somebody from something.

The combination of mandated idle reserve balances, deposit insurance, minimum capital standards, and higher mandated loan-loss reserves has created a highly burdensome set of rules that could ensure the continued shrinkage of the relative—and, in some cases, the absolute—size of chartered depository institutions. Yet, the demand for financial services continues to increase, and unencumbered depository intermediaries often have a comparative advantage in providing such services in the absence of excessive regulation. Forcing financial flows to find channels other than through regulated depository institutions does not contribute to the safety and soundness of the financial system.

Elsewhere in the world, reserve requirements are being reduced or eliminated entirely; it is now time for U.S. financial regulators to reevaluate the role that this tax plays. The United Kingdom has a reserve requirement of only .05 percent, which is causing other European central banks to lower their reserve requirements because of competitive forces associated with the monetary unification of Europe. In 1988, the Reserve Bank of Australia eliminated reserve requirements altogether. The Bank of Canada is also in the process of eliminating reserve requirements, because they are no longer viewed as essential for the conduct of monetary policy.

The Federal Reserve could contribute toward the restoration of the financial strength of depository institutions in the United States

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by announcing a program that will reduce the reserve requirements on transactions liabilities from the present 12 percent to the current statutory minimum of 8 percent. Furthermore, legislation should be sought to permit further reductions of reserve requirements to zero or, at most, to a level that does not exceed the amount necessary for clearing purposes.

The argument against lowering reserve requirements on the grounds that such a change would reduce the revenue of the U.S. Treasury and add to the budget deficit should be rejected. It is a cynical response that places short-term political objectives ahead of the creation of a more sound and efficient financial sector. If we sincerely want to restore the health of the financial services industry, then easing the burden of the idle, non-earning assets would be a constructive first step that should be taken as soon as possible.

Financial Stability through Regional Diversification

As one global market for financial services continues to develop, greater opportunities for diversification will emerge. The critical determinant of the extent of this global financial market will be the legal framework for the enforcement of private contracts.

Foreign experience, such as that of some regions of Canada and the performance of Canada's banking system in the 1980s relative to that of the United States, illustrates the virtues of regional diversification. Various Canadian regions and industries experienced the same boom-and-bust cycles that certain regions and industries of the United States experienced over the past decade. Canada not only experienced the same extreme economic fluctuations as the United States, but it also has a federal deposit insurance system that is very similar to the United States'. Yet, there was no financial industry crisis in Canada like the one that occurred in the United States.

During the late 1970s and early 1980s, the energy-producing province of Alberta experienced an oil boom similar to that of the southwestern United States. Subsequently, Alberta suffered a regional depression that was much like the one that occurred in energy-producing regions in the United States. Two small banks in Alberta, exploiting the moral-hazard aspect of deposit insurance (also present in Canada), took on what were determined to be imprudent risks; the banks ultimately failed when the regional economy contracted.

The seven major Canadian banks are nationwide branch-banking institutions. Thus, while these large Canadian banks lending in Alberta also suffered losses, the losses suffered in the depressed regions were offset by continued profitable operations in other prov-

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inces. This feature of Canadian banking allowed the institutions to achieve a considerable degree of regional and industrial diversification in their asset portfolios. As a result, the regionalized boom-and-bust conditions in Canada did not produce the financial industry disaster that we saw with savings-and-loan institutions and commercial banks in the southwestern United States.

In the global economy, some regions expand rapidly while others grow more slowly or contract. Some regions import capital while others are net exporters of funds (depending on whether or not local residents are net importers of goods and services). A financial institution domiciled in a capital-exporting region acquires earning assets (makes loans or purchases securities) in the capital-importing regions. Institutions based in capital-importing regions facilitate the sale of local assets to foreign portfolio managers through securitization or other merchant banking and investment banking activities. An institution operating in many economic regions will achieve lower information costs about relative risk-reward opportunities and will be able to originate, service, and either hold or package for sale a regionally diversified portfolio of earning assets. Also, lower variance of average funding costs should result from regional diversification of the deposit base.

Financial Restructuring

In many industrial countries, the banking industry has been going through a wrenching process of restructuring. The process is likely to accelerate in the 1990s, as the financial sector becomes less regulated and more competitive. There will be less room for error or bad judgments, and efficient markets will weed out the weak players.

We have already seen the near total deregulation of the pricing of financial services in many countries. Ceilings have been removed on the interest rates that banks can pay depositors, and usury laws on loans have been virtually eliminated. Competition across national borders, in the absence of exchange and capital controls, will make it impossible to maintain any interest-rate controls in the future.

Restrictions on the products that banks can offer, such as underwriting certain securities, have been eliminated in some countries and are being eroded in others. The pressure of international competition, if not legislative enlightenment, will result in the elimination of the remaining barriers.

During the 1990s, all major industrial countries will permit the emergence of financial supermarkets. Universal banks, those financial institutions that offer a full array of financial services, have long

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existed in Europe. With the economic integration associated with Europe 1992, many global institutions will offer a complete line of commercial banking, investment banking, merchant banking, brokerage, and insurance services worldwide.

The United States had universal banking prior to the 1930s, and Japan's *zaibatsu* groups were dismantled at the insistence of the United States only after World War II. Much of the financial legislation and regulation of the 1930s was a big mistake and is being repealed incrementally. The Glass-Steagall segmentation of the U.S. financial industry and Article 65 in Japan are anachronistic holdovers that will disappear in the 1990s.

The certainty of the global trend to universal banking derives from international competitive pressures. Technology played a major role in breaking down onerous branching and interest-rate regulations in the United States, and it will play a role in breaking down international barriers. Financial institutions operating from a base in countries with the most efficient rules will have a considerable advantage over those operating under rigid regulations. Canada already has returned to a banking structure close to the universal banking that is prevalent in Europe. Australia and New Zealand ended the distinction between commercial banks and investment banks five years ago.

As the markets for assets and financial services become increasingly global, supra-national financial institutions will emerge. Political boundaries no longer create economic boundaries over a protracted period of time—not for goods, and certainly not for finance.

The linking of financial markets around the world will prevent any major nation from isolating its domestic money and capital markets from external events. Witness, for example, the worldwide stock market debacle of October 1987 or, more recently, the impact on the dollar of political instability in Japan and China. As technology has propelled us into an around-the-clock global financial market, banks have positioned themselves—with offices in Los Angeles, New York, London, and Tokyo—to serve international financial needs. Because goods are traded globally and portfolios of earning assets are globally diversified, some financial institutions will seek the capability to operate globally.

Conclusion

Financial institutions now face enormous challenges, and their ability to compete effectively during the 1990s can be enhanced by

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regulatory changes. On the global scene, European financial institutions will be stronger competitors as Europe 1992 becomes a reality. At the same time, Japanese banks will be repositioning themselves to maintain their dominance in major segments of the financial services market.

The evidence of the 1980s clearly supports the removal of remaining restrictions against regional and product diversification, as well as the easing of the onerous burden of reserve requirements. The free flow of savings and capital, the appropriate pricing of risk, and a wide range of innovative financial services available to consumers and businesses are crucial to an efficient, sound, and stable financial system.

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International Trends in the Combination of Banking, Securities, and Commerce

Peter J. Ferrara

The rapid pace of change in financial markets over the past two decades or so is often referred to as a financial market revolution. One of the major elements of this revolutionary change has been the blurring or outright elimination of the traditional and regulatory distinctions between banking and other financial or even nonfinancial businesses. This paper will examine current international trends in the combination of commercial banking with securities activities, investment banking, other financial activities such as insurance, and general commercial enterprises. The final section will discuss the reasons for these developments and whether the change is desirable.

Western Europe

The combination of banking with other businesses has gained the most momentum in Western Europe. In West Germany, Switzerland, Great Britain, France, Luxembourg, and the Netherlands, commercial banks can engage in securities underwriting and any investment banking activity, securities brokerage, insurance underwriting and brokerage, investment advice, currency trading, futures and options trading, and (except in Switzerland) any real estate development or sales activity.[1] According to the Institute of International Bankers (1988), banks in these countries can also own or be owned by commercial enterprises.

Cato Journal, Vol. 10, No. 2 (Fall 1990). Copyright © Cato Institute. All rights reserved.

The author is Associate Professor of Law at George Mason University School of Law and a Senior Fellow at the Cato Institute.

[1]See, for example, Institute of International Bankers (1988); Levich (1985, pp. 280–82); Glassman (1988, pp. 15, 19–20); Cooper and Fraser (1984, pp. 76–83); Hamilton (1986, 130–54).

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This "universal banking" model began in West Germany, where the links between banking and general commerce are the broadest. For example, the nation's largest bank, Deutsche Bank, owns 28 percent of German auto manufacturer Daimler Benz—the country's largest company by sales. With the assistance of Deutsche Bank, Daimler in turn recently expanded by acquiring Messerschmitt-Boelkow-Blohm G.m.b.H, a major aerospace and technology firm. Deutsche Bank also owns large shares of Phillip Holzmann AG, a construction group; Kloeckner-Humboldt-Deutz AG, a heavy equipment and engineering group; and Karstadt AG and Horten AG, two of the nation's largest retailers. Dresdner Bank, Germany's second largest bank, owns large shares of Metallgesellschaft AG, a manufacturer, and of Bilfinger Berger Bau AG, a major construction firm. The nation's number three bank, Commerzbank, owns a large share of Karstadt. These three leading German banks have each been involved in securities underwriting and brokerage for many years.

In Great Britain, where the now-American tradition of separating commercial and investment banking began, all the major British banks currently own investment banking operations and securities brokerage firms. Deregulation in both Great Britain and France in the 1980s expanded bank powers in those countries to match other major banking centers in Western Europe, leading to growing combinations of banking and securities activities in both countries. Italy allows its banks to conduct securities activities, investment banking, and other financial businesses, but prohibits cross-ownership between banking and commercial firms. (Institute of International Bankers 1988, pp. 35–40).

This overall pattern will be strengthened by the planned economic integration of the European Economic Community in 1992. By that year, EEC countries plan to establish a single, integrated, pan-European market in all goods and services, which will break down existing barriers among countries. As part of this broader effort, the EEC plans a common banking market in which each member country will be able to grant its banks a single EEC license authorizing the bank to operate in all other EEC countries. This license would empower the bank to engage in the full range of securities activities, including underwriting, dealing, and brokering debt and equity securities. As a result, all of Western Europe will become a unified major financial market combining commercial banking with the full range of securities and investment banking activities.[2]

[2]See Commission of the European Communities (1988a, 1988b); Gruson and Nikowitz (1989, p. 205); (Golembe Associates 1988, p. 1); Institute of International Bankers (1988, pp. 68–72); U.S. International Trade Commission (1988, pp. 5–1 to 5–30).

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Even before the planned integration of 1992, European banks have begun to combine with insurance companies under existing powers. In West Germany, where the trend is called "Allfinanz," Deutsche Bank established its own life insurance company in 1989. The nation's largest insurer, Allianz, already owns two banks—Bayerisch Hypotheken Bank and Wustenrot Bank—and has established an extensive cross-marketing arrangement with Dresdner Bank. In 1989 Dresdner purchased a substantial stake in an Italian insurance firm, Norimberga Maecci Vita. Also in 1989, Commerzbank completed a deal to buy 50 percent of DBV and Partners, a national insurer. In 1987 Aachener und Munchener, Germany's fifth largest insurer, bought a controlling stake in Bank Fuër Gemeinwirtschaft.

In France, where the same trend is called "bancassurance," the country's largest bank, Banque Nationale de Paris, has recently exchanged 10 percent ownership shares with France's biggest insurer, Union des Assurance de Paris, with the two agreeing to an exclusive cross-marketing arrangement. The Groupe des Assurance Nationale, one of the largest French insurance organizations, recently acquired Compagnie de Credit Industriel et Commercial, a leading French bank. In late 1989 Compagnie Financiare de Suez, a leading French investment bank that owns Banque Indosuez and other commercial banking interests, acquired Victoire-Colonia, the largest private insurance company in France and the second largest in Germany. It subsequently purchased a large stake in Baltica Holding, Denmark's largest insurance company. Credit Lyonnais, another leading French bank, sells insurance directly, including fire, accident, health, and other types of coverage. Another French bank, Credit Foncier, has recently established its own life insurance branch. Still another major French bank, Credit Agricole, runs a life insurance company jointly with Groupama, an insurance mutual firm.

In Great Britain, one of the nation's major clearing banks, Lloyd's, recently purchased Abbey Life, a major insurer. A major Italian bank, Instituto Bancario San Paolo di Turin, recently acquired three Italian insurance companies in a joint venture with British insurer Royal Guardian Exchange. Banco Nazionale del Lavorro and Carra di Risparmio delle Provincie Lombardi are other Italian banks that have recently acquired insurance companies. In Holland, the third largest insurer, Amer Group, has exchanged major shareholdings with Verenigde Spaarbank, Holland's top savings bank. In 1988, Spain's Banco Atlantico sold a stake to insurer Assurances Generales de France. In the same year, Banco Popular Español entered a joint venture with insurers Allianz of Germany and RAS of Italy to sell life insurance

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in Spain. Belgian Generale Bank and Union Bank of Finland also have recently purchased insurance companies.

If this trend continues, by 1992 Western Europe will present a unified banking market broadly combining commercial banking, investment banking, securities activities, and insurance. Indeed, the EEC initiative is likely to lead all nations of Western Europe to adopt the broad universal banking powers of the major countries described above. The simple pressure of competing in an otherwise highly integrated economic market with the existing universal banking systems of the major EEC powers is likely to lead the others to liberalize their systems so they can maintain their competitiveness.

The one countertrend is that in West Germany the broad ownership links between the nation's top banks and top commercial industrial firms are under political attack, with a number of proposals pending before the government to cut back on such links. But whether such new policies will be adopted is uncertain. Given longstanding West German traditions, ownership links between banking and commerce are unlikely to be banned altogether.

The Far East

The financial industry of Japan presents a curious mixture of Japanese economic traditions and American notions of financial regulation imposed during the American occupation after World War II. In practice, Japanese banks are heavily intertwined with major commercial firms in collaborative groupings of Japanese companies that work closely together, which is a central, traditional feature of the nation's economy. The banks each own stock in the commercial companies of their respective collaborative groups, and the commercial companies own stock in their group's bank. Japanese banks, therefore, are not separated from commerce.[3]

Formally, Japanese commercial banks are supposed to be separated from other major financial service institutions, particularly securities firms and investment banks, analogous to the American regulatory system. Yet, the collaborative groupings of Japanese companies include investment banks, securities firms, and insurance companies, along with commercial banks. The Mitsubishi Group, for example, includes Mitsubishi Bank, three insurance companies, and five securities firms. The Japanese government is also favorably considering proposals to abolish the American-style restrictions that

[3]See Institute of International Bankers (1988, pp. 41–49); Hamilton (1986, pp. 164–65, 173–74, 177–78); Levich (1985, pp. 280–82); Glassman (1988, p. 20); Cooper and Fraser (1984, pp. 89–90).

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seek to separate banking from other financial institutions, and most observers believe it will do so in the near future to enhance the international competitiveness of the country's banks. (*Euromoney* 1989, p. 5).

Hong Kong and Singapore are other major banking markets in the Far East where the banks already have the same broad range of powers as in the leading Western European financial centers discussed above. (Institute of International Bankers 1988, pp. 29–34; Cooper and Fraser 1984, pp. 76–83).

North America

Canada has recently begun phasing in a deregulatory plan that will eliminate separations between its commercial banks and other financial institutions. Historically, Canada has had regulatory restrictions separating its financial services into four categories: (1) commercial banks; (2) investment banks and securities brokerage firms; (3) insurance companies; and (4) trust and loan companies that manage funds, perform fiduciary activities, and provide real estate financing. Under the new deregulation plan, however, a firm in any of the four categories will be able to establish subsidiaries to engage in activities of each of the other categories. Firms in any or all of the four categories could be jointly owned by a holding company as well. Trust and loan companies will also be able to own companies engaged in real estate management, development, and brokerage. The plan, however, will retain the current separation between banking and general commerce (Institute of International Bankers 1988, pp. 41–49).

The United States still maintains the Glass-Steagall Act, which seeks to separate commercial banking from securities and investment banking activities, and the Bank Holding Company Act, which seeks to separate commercial banking from other financial businesses and general commerce. Indeed, the most recent legislative change in the United States sought to strengthen these policies. The Competitive Equality Banking Act of 1987 eliminated the opportunity for nonbank financial firms and commercial firms to establish so-called "nonbank banks," which could provide deposit services without commercial lending. That act also further restricted U.S. banks from offering insurance services.

However, U.S. regulatory authorities have administratively relaxed the Glass-Steagall restrictions to an extent in recent years. Banks now can underwrite municipal revenue bonds, mortgage-backed securities, consumer-debt-backed securities, corporate debt,

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and, most recently, even corporate equities through bank holding company subsidiaries that are not "principally engaged" in such activities, which means that no more than 5 percent of the subsidiary's revenues may be derived from them.[4] In addition, banks can now privately place commercial paper[5] and can provide discount securities brokerage services.[6] More recently, the regulators have begun to allow banks to provide investment advice along with this discount brokerage.[7]

Other exemptions have been longstanding. U.S. banks can underwrite and deal in federal, state, or local general obligation bonds, which are to be paid out of general tax revenues (12 U.S.C. §24 [1989]). American banks overseas can also underwrite corporate bonds, as well as up to $2 million in equities per issue.[8] State chartered banks that are not members of the Federal Reserve System are exempt from the Glass-Steagall Act altogether (House of Representatives 1987, pp. 5–6; Isaac and Fein 1988, p. 331). Moreover, nonbank financial or commercial firms may own thrift institutions and individuals may own both banks and nonbank firms (Huertas 1988, pp. 289–91). Nevertheless, the general policy of separating commercial banking from securities and other financial activities, and from general commerce, remains in place.

Even the United States, however, is likely to repeal much if not most of this overall policy in the near future. All the major federal

[4]Citicorp, 73 *Fed. Res. Bull.* 473 (1987); Chase Manhattan Corp., 73 *Fed. Res. Bull.* 367 (1987); Chemical N.Y. Corp., 73 *Fed. Res. Bull.* 731 (1987); Securities Indus. Assn. v. Board of Governors of the Fed. Reserve Sys., 839 F. 2d 43 (2d. Cir. 1988), Cert. den., 56 U.S.L.W. 3849 (1988); Securities Indus. Assn. v. Fed. Reserve Board, *Fed. Banking L. Rep.* (CCH) § 87, 368 (D.C. Cir. 1988); House of Representatives (1987, p. 7); Isaac and Fein (1988, pp. 281, 330–31).

[5]Securities Indus. Assn. v. Board of Governors of the Federal Reserve System, 807 F. 2d 1052 (D.C. Cir. 1986), cert. den., 107 S. Ct. 3228 (1987); House of Representatives (1987, pp. 6–7); Isaac and Fein (1988, pp. 331–32).

[6]12 C.F.R. § 225.4 (15) (1989); Security Pacific National Bank, *Fed. Banking L. Rep.* (CCH) § 99,284; Security Indus. Assn. v. Board of Governors of the Fed. Reserve Sys., 468 U.S. 207 (1984); House of Representatives (1987, pp. 6–7); Isaac and Fein (1988, p. 326).

[7]American Nat'l. Bank of Austin, Texas, *Fed. Banking L. Rep.* § 99, 732 (1983); National Westminster Bank, PLC, 72 *Fed. Res. Bull.* 584 (1986); J. P. Morgan and Co. Inc., 73 *Fed. Res. Bull.* 810 (1987); The Royal Bank of Canada, 74 *Fed. Res. Bull.* 334 (1988); Sovran Financial Corp., 73 *Fed. Res. Bull.* 744 (1987); The Bank of Montreal, 74 *Fed. Res. Bull.* 510 (1988); OCC Interpretive Letter No. 386, *Fed. Banking L. Rep.* (CCH) § 85,610; OCC Interpretive Letter No. 403, *Fed. Banking L. Rep.* (CCH) § 85,627; Securities Indus. Assn. v. Board of Governors of the Fed. Reserve Sys. (D.C. Cir. 1987), cert. den., 108 S. Ct. 697 (1988); Isaac and Fein (1988, p. 298).

[8]See General Accounting Office (1988b); House of Representatives (1987, p. 5); Isaac and Fein (1988, pp. 343–45).

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bank regulators now support allowing U.S. banks to affiliate with other financial and even commercial enterprises, except the Federal Reserve, which supports retaining the separation between banking and commerce (FDIC 1987; House of Representatives 1987, pp. 100–324; Corrigan 1987). While Congress has been highly responsive in the past to special interest pleas for protection from bank competition, the legislators know that the separation between banking and securities at least is grossly outdated and out of step with the rest of the world and must be changed. Moveover, the Securities Industry Association has recently voted to drop its opposition to repeal of Glass-Steagall, so the main special interest force against reform on this issue has been removed.

On the other hand, the thrift insurance crisis has created an adverse political environment for considering deregulation and new powers for banks at the moment. But this concern is likely to be overcome. Congress will ultimately become concerned about the need to keep U.S. banks and banking markets competitive with the rest of the world. Moreover, repeal of the restrictions will actually improve the safety and soundness of banks by better enabling them to meet the competition, diversify their risks, and gain advantages of economies of scope (Ferrara 1989). Reform proposals to allow the new activities only in separately incorporated affiliates, which are insulated from the bank, avoid deposit insurance problems (FDIC 1987). If one considers the American legislative cycle and growing publicity surrounding changes in Europe, major legislation on this issue will probably be enacted in 1992. Glass-Steagall will probably be repealed, and the debate will focus on whether to allow bank affiliates to engage in insurance, real estate brokerage, and general commerce.

The hidden story of the U.S. system, however, is that banking is already combined with securities, other financial activities, and even general commerce, all of which are outside the formal banking system. Corporate borrowers increasingly raise funds by issuing securities directly to the marketplace, rather than by borrowing from banks. Nonbank firms also increasingly provide commercial loans and other forms of lending, such as mortgages, car loans, consumer credit, credit card debt, and others, by issuing securities to raise the funds, by pooling the loans, and by selling securities representing shares in the pool. As a result of this process of "securitization," securities are now heavily involved in performing the traditional credit functions of banks. Securities activities such as underwriting and dealing are now part and parcel of the traditional credit functions that banks have always served. Moreover, through these securities activities

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any nonbank firm can now perform the traditional credit functions of banks as well as or better than banks, and can mix these banking functions with nonbank financial or even commercial enterprises.[9]

Indeed, there has never been any legal restriction in the United States on the authority of nonbank firms to provide any sort of loan or credit, commercial or otherwise, and nonbank firms are taking advantage of this power. Major manufacturers who began in financial services by extending credit to their corporate purchasers now often expand to provide commercial loans to noncustomers in direct competition with banks. For example, General Electric Credit Corp. (GECC) is now a major commercial and industrial lender, with 300 offices offering such loans across the country.[10] GECC provides only 5 percent of its credit for the purchase of General Electric products. Rosenbaum and Seigel identified 32 large nonbank companies in the United States in 1983 that together had one-third the volume of commercial and industrial loans as the 15 largest bank-holding companies. These nonbank companies also had a higher volume of lease financing than all U.S. commercial banks combined (Rosenbaum and Siegel 1983).

On the consumer credit side, General Motors Acceptance Corp. and Ford Motor Credit Corp. are both larger than GECC and provide a broad range of consumer financing as well as auto loans.[11] Nonbank firms now provide as much auto financing as banks (FDIC 1987, pp. 7–9). Rosenbaum and Siegel found that in 1983 only 2 of the 5 largest consumer lenders, and only 6 of the top 15, were banks. Overall, of the 27 largest lenders for all types of credit, 15 were bank-holding companies and 12 were nonbank conglomerates (Rosenbaum and Siegel 1983).

The only bank service, in fact, that is legally restricted to banks in the United States is deposit taking. But nonbank firms today can offer the functional equivalent of bank deposits, including checking accounts. The most significant deposit equivalent is the money market fund, which is now regularly offered with unlimited access by check and automated teller machine.[12] Nonbank firms can even

[9]For further discussion, see Ferrara (1989, pp. 16–23).

[10]See Gart (1985, pp. 22–24); Litan (1987, pp. 44, 115); Rose (1988, p. 331); England (1988, p. 257); Hamilton (1986, p. 107).

[11]Litan (1987, pp. 46, 79, 115); Rose (1988, p. 331); England (1988, p. 257); Hamilton (1986, p. 98).

[12]See Cooper and Fraser (1984, pp. 5–7); Pierce (1988, p. 30); Karmel (1988, p. 52); "An Alternative to Throwing Stones" (1986, pp. 281, 297); Bryan (1988, p. 15); Bentson (1986, p. 12); OTA (1987, pp. 9, 12, 63, 72, 90, 98, 100, 107, 174, 195, 197, 233); Burns (1988, p. 15); House of Representatives (1987, pp. 66–67); Langevoort (1985, pp. 747, 749).

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obtain government guarantees for these funds by investing them in government-backed investments. These firms can also broker funds into governmentally insured bank deposits and retrieve them to pay off checks written on the firm's money market accounts.[13] Any nonbank firm can also own a single thrift, through which deposit services can be provided (12 U.S.C. §1730a[1989]). Since any nonbank firm can offer these deposit equivalents along with any form of lending and any other nonbank service, all bank functions can be and are provided outside the banking system in the United States, in combination with any securities activity, nonbank financial service, or commercial enterprise.

Taking advantage of these opportunities, financial supermarkets have arisen to offer virtually every financial service under one roof, often with general commercial activities as well. Sears (1989), for example, offers the following services: auto, life, property, casualty, and homeowner's insurance through its Allstate Insurance affiliate; retail securities brokerage, money market funds, mutual funds, and annuities through its Dean Witter affiliate; real estate brokerage, mortgages, and title escrow services through its Coldwell Banker affiliate; a national credit card with 26 million cardholders through its Discover Card enterprise; and deposit services, consumer loans, and mortgages through a thrift subsidiary and a grandfathered nonbank bank (Gart 1985, pp. 56–60). Sears (1989) also engages in investment banking, asset management, and real estate development activities, besides maintaining the nation's leading retail department store chain and consumer catalog service (Gart 1985, pp. 56–60).

Similar financial supermarkets include Merrill Lynch (1989), American Express (1989), Prudential Bache, and J. C. Penney.[14] A large number of companies also combine at least some traditional banking services with some nonbanking financial or commercial services, without trying to cover every financial activity as the supermarkets attempt to do (Ferrara 1989, pp. 34–37).

These phenomena are not unique to the U.S. system. But what does seem peculiar to the United States is the curious attempt to maintain regulatory separations among banking and other financial and commercial activities while these same activities are combined with all activities of commercial banking outside the formal banking system. The result is simply to disable formal U.S. banks from fully competing and participating in the modern financial marketplace,

[13]For a further discussion, see Ferrara (1989, pp. 25–27).

[14]Gart (1985, pp. 12, 56–64, 76–77, 78–79); England (1988, p. 257); Hamilton (1986, 107).

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which is probably the most compelling reason for reform of the U.S. system.

Evaluation of the Trend

Why this worldwide trend to combine what was formerly separate by law and tradition? The regulatory barriers are falling because, as discussed above in regard to the United States, banking can no longer be practically separated from other activities. Securities are now heavily intertwined with every aspect of traditional bank credit. Nonbank firms, whether financial or commercial, can currently offer the equivalent of bank deposits along with any loan. In this environment, attempts to artificially separate formal banks from other activities will just arbitrarily disable formal banking institutions from meeting the competition in the modern marketplace. Countries around the world are removing these artificial regulatory separations because they want their banks and banking markets to remain competitive.

Why is the market moving to such combinations? Modern communications and computer technology have made performing the credit functions through securitization easier, cheaper, and apparently more efficient in many if not most circumstances than traditional bank credit.[15] Issuers of various securities can more broadly, rapidly, and cheaply communicate and transact with widely dispersed investors in a nationwide and even global market. Buyers can collect relevant information about securities offerings more quickly, easily, and cheaply, and can better analyze and monitor the information and risks involved. Consequently, buyers in the open market can better evaluate the creditworthiness of corporate security issuers or of the credit instruments in a securitized pool. Storing and referring to information is also much easier and cheaper, and can be done more rapidly. Thus both sellers and buyers can effectively and efficiently keep track of and carry out their responsibilities in a complex securitized arrangement. Cost is reduced for the whole range of transactions involved in pooling debts, issuing shares in the pool, collecting payments on the underlying debts, transmitting payments to security holders, and pursuing collection and foreclosure procedures. These factors have led the market to turn to securities more and more to perform the traditional bank credit functions, thereby producing the combination of this banking activity and securities. Indeed, in the

[15]Ely (1988, pp. 4–5); OTA (1987, pp. 65, 66, 67, 75–76, 80–82, 84, 94, 210–11, 214–215, 225); Haraf and Kushmeider (1988, p. 3); Bryan (1988); Isaac and Fein (1988, pp. 292–93).

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modern marketplace, securities and their associated activities of underwriting and dealing are now essential components of major lending institutions.

The new technology has also made possible the development of deposit equivalents such as money market funds on a cost-efficient basis.[16] These funds are invested in numerous highly liquid short-term securities that mature and turn over rapidly. The new technology made holding large portfolios of such securities feasible and cost-effective, because firms could more easily and cheaply collect and analyze information about available securities, carry out the purchases, and administer the securities and their payment flows in portfolio. The technology also allowed firms to perform the following tasks more quickly, easily, and cheaply: communicate with customers and their payers and payees, collect and store information about their accounts, and transfer funds into and out of their accounts. These developments allowed firms to keep track of and administer numerous small accounts more cost-effectively. But more importantly, these were the crucial factors that enabled firms to provide their customers full, unlimited checking authority to gain access to their accounts. The new technology also enabled firms to provide automated teller machines that allow customers immediate, 24-hour access to their accounts.

Once technology made such deposit equivalents economically feasible, nonbank firms found offering them attractive to their customers. Consequently, banks' deposit as well as lending services became combined with nonbank financial or even commercial firms.

New technology has also promoted the entry of nonbank firms into traditional banking activities by creating new economies of scope and scale, which make banking activities attractive complements for existing activities of nonbank firms.[17] The information developed to provide one financial service to a customer is often helpful in providing other financial services. Modern communications and computer technology make it easier, cheaper, and more efficient to use that information to provide these other financial services. The information can be more cheaply collected, stored, and monitored, and it can be communicated from one market to another. Providing the consumer with a broad array of choices that are based on a basic set

[16]OTA (1987, pp. 90, 109, 191, 193, 202, 212); Gart (1985, p. 48); Hamilton (1986, p. 38); Burns (1988, p. 23); Kaufman et al. (1983, pp. 103–4); Cooper and Fraser (1984, p. 193); Edwards (1986, p. 17).

[17]OTA (1987, pp. 63–64); Edwards (1988, p. 114); Haraf and Kushmeider (1988, p. 26); Kaufman et al. (1983, pp. 103–4); Litan (1987, pp. 17, 76–78); Bentson et al. (1986, pp. 139–40); Mussa (1986, pp. 123–25); Saunders (1988, p. 18).

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of data about that consumer has become more feasible and cost-effective as well. Moreover, technology provides some firms with the ability to provide services that have always seemed otherwise complementary to their activities. Technological factors leading to the securitization trend, for example, enable a real estate brokerage firm to obtain the funds to provide mortgages to its homebuying customers.

The 1920s exhibited some of the same combinations of banking and other activities that we have discussed, particularly the entry of commercial banking into investment banking (Merris and Wood 1985). But those combinations did not occur to the same extent as today, and the impact of securitization in the credit markets was not nearly as great. While investment banks were involved in deposit taking, the activity was not nearly as extensive or as broad-based as money market funds and other deposit equivalents offered today by firms outside traditional depository institutions. Nor did we see evidence of the extensive combination of banking with insurance and general commerce that we see today. On the other hand, in countries such as Germany, which have longstanding laws and traditions favoring combinations of banking and other activities, many combinations date back even further than the 1920s. Such combinations reflect the fundamental, close economic, and functional relationship among traditional banking and many other activities, such as securities underwriting.

But is the trend toward combining banking with other financial and commercial activities desirable? New combinations increase competition in financial services and elsewhere. Bank organizations are entering and providing greater competition in investment banking, securities brokerage, insurance, real estate brokerage and development, and other businesses. Conversely, investment banks, securities brokers, insurance companies, and commercial enterprises are entering and providing greater competition in banking. This increased competition should reduce prices and improve services in financial markets. Consumers will also benefit from the convenient combinations of different services, which allow them to enjoy the benefits of economies of scope in consumption of such services.

The trend is also improving bank safety and soundness in several ways. Bank organizations are reducing their risk by diversifying into different financial and commercial businesses, improving the distribution of their returns, and possibly increasing the overall level of their returns as well.[18] Banks are also gaining the efficiencies of

[18]FDIC (1987, pp. 2, 60–62); Litan (1987, pp. 81–98); Bentson (1986, pp. 25–26, 139–40, 164, 170–71); House of Representatives (1987, pp. 33, 35, 37–38).

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economies of scope in providing complementary services. Through these new combinations, banks are also better able to compete in the modern marketplace, and to provide the full range and combinations of services that modern markets demand.

The chief concern over the new trend is that new activities pose substantially greater risks for banks than traditional banking activities. Also new combinations may undermine bank safety and soundness. In my view, these concerns are misplaced. Risk cannot be controlled by restricting banks to certain categories of activities, because banks can take on any level of risk within any single activity. Banks providing mortgages could lend on geographically concentrated, speculative properties, at fixed rates, to buyers who have bad credit histories and small incomes relative to debt burden and who put little or no money down. Banks providing consumer credit could grant high-limit credit cards to customers who have modest incomes and weak credit ratings and who cannot get credit anywhere else. As Bentson suggests, banks are surely capable of attaining the level of risk each prefers within their current range of activities, and therefore new activities should not cause them to operate at higher risk (Bentson 1989, pp. 161–63, 175–76).

Moreover, the impact of a new activity on a bank's risk cannot be assessed by examining the risk of the new activity alone. Modern portfolio analysis shows that the impact depends on how the new activity relates to the portfolio of an organization's current activities (Ferrara 1989). Even if the new activity has greater income variance than current activities, the organization's overall risk would actually be reduced if the income variance of the new activity was negatively correlated with the variance of the current activities. Income from the new activity would then tend to be up when income from the current activities was down and vice versa, thus reducing income variance for the entire organization. Indeed, new activities with more variable income than current activities could reduce overall variance even when their income is positively correlated with the old activities, as long as the correlation of the returns is less than the ratio of their standard deviations (FDIC 1987, p. 61). The income of the new activities might then vary little when the income of the old activities was varying the most and vice versa, again leaving the entire organization with less income variance. New activities with more variable income positively correlated with the income variance of current activities could also reduce the organization's overall risk if the more variable profits of the new activities were sufficiently higher than the profits of the old activities. The whole organization would then be sufficiently profitable to avoid any increased risk of failure despite

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the greater variance in overall income. New activities could also reduce risk by enabling an organization with complementary activities to gain the efficiencies of economies of scope, thereby reducing costs.

There is also no reason to believe that new activities would necessarily be more risky than current bank activities. If we examine the risks of the most controversial new activity for banks, securities underwriting, we find that it is not significantly different from the risks of long-established bank activities (Ferrara 1989, pp. 93–102). The default risk borne by an underwriter holding a security issue for a few hours or days at most is trivial compared to the default risk borne by banks in traditional lending. While underwriters face the risk of a change in value during the brief period they hold a new security issue, banks that hold corporate bonds as investments face the same risk for the entire term of the bond. Banks also face a similar risk with traditional bank loans for the entire period of the loan, because a change in interest rates, for example, could cut into the return on the loan. Banks face similar risks when dealing and holding inventories in foreign exchange or in futures and options on currencies, market indexes, and other items.

While an underwriter faces the risk of getting a sound offering price for each issue, banks face a closely analogous risk in setting the interest rates for their loans and the prices for currency futures and options, where they act as specialists or market makers in these instruments. Moreover, this is not a pure market risk, but a matter of the underwriter's competency and capability. There is no reason why bank organizations cannot perform this function as well as anyone else. Studies show that underwriters have been able to reduce this risk to quite manageable levels (Giddy 1985; J. P. Morgan & Co. 1984, pp. 12–15).

Possible problems caused by the perverse incentives of deposit insurance in some countries can be avoided by allowing new activities in separately incorporated, insulated affiliates.[19] Moreover, we should ask: Why should allowing any new activities under the incentives of deposit insurance be any more of a problem than allowing the current activities? Banks can certainly get into a great deal of trouble with any traditional market activity, as discussed above. Bent-

[19]Despite the comments of O'Driscoll (1988), this argument has been thoroughly hashed out in the literature. See, for example, Ferrara (1989, pp. 98–106); FDIC (1987); Fischel et al. (1987, pp. 301, 333); House of Representatives (1987, 36–38, 45–53, 78–81); Bentson et al. (1986, pp. 150–52); GAO (1988, pp. 17–18, 54–63); J. P. Morgan (1984, pp. 18–19); Litan (1987, pp. 135–36, 145–50, 162–63); Pierce (1985, pp. 27–28); Pierce (1988); Huertas (1984, pp. 148, 156).

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son (1989, pp. 175–76) argues that since banks can attain their desired level of risk under the incentives of deposit insurance through their traditional activities, new activities should not increase risk. Overall, the effect of the trend toward combining banking with new activities should be to reduce rather than increase risk, for the reasons discussed above (compare O'Driscoll 1988). The experience around the world to date does not seem to suggest any threat of increased risk.

Another key concern raised over this trend is that it will increase economic concentration and thereby have negative competitive effects. But this argument is only another manifestation of the old antitrust paradox—restricting competition in the name of preserving it. The trend clearly involves an increase in competition as banks are entering and providing new competition in financial or nonfinancial fields, and nonbank firms in these fields are entering and providing greater competition in banking. Indeed, since the trend involves new interindustry penetration, the trend will clearly not increase concentration in any affected market. It will unambiguously reduce concentration in all affected markets through the new competition.

Conclusion

In major financial markets around the world, commercial banking is increasingly combined with securities, investment banking, insurance, and other financial or nonfinancial activities. Regulatory barriers against such combinations are coming down. This trend reflects modern market realities and new technological developments that have made such combinations feasible and more attractive.

New combinations are increasing competition in financial services and elsewhere, and they benefit consumers through the convenience of economies of scope in the joint consumption of financial services. Moreover, contrary to the usual fears, the trend is improving the safety and soundness of banking organizations.

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Banking, Securities, and Commerce: A European Perspective

Mervyn K. Lewis

Recent Developments

In a large number of countries, long-standing laws and customs separating commercial banking from securities activities are being removed or their effectiveness is being eroded by market pressures. Among the major industrialized countries, the United States and Japan are now virtually alone in retaining a formal segregation between commercial and investment banking. Elsewhere, Australia, Canada, New Zealand, and the United Kingdom have relaxed restrictions allowing banks to take equity stakes in stockbroking firms. France, Italy, Spain, the United Kingdom, and many other countries seem to be evolving toward universal banking, as traditionally practiced in Austria, Germany, the Netherlands, and Switzerland. The common ownership of banks, trust companies, insurance companies, and securities firms is becoming the norm.

Even in the United States and Japan, the legal barriers are less inhibiting than is often perceived. In their domestic operations, U.S. banks now have the capacity to underwrite 80 percent or more of domestic securities issues; in Japan, banks are able to circumvent some of the restrictions of Article 65 through interlocking share ownerships with securities firms. Both U.S. and Japanese bankers undertake investment banking in their overseas operations along universal banking lines.

The trend to universal banking in European markets is being reinforced by European Community (EC) directives, the goal of which is to create a single, unified market by removing barriers to the cross-border provision of financial services, to the establishment of

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The author is Midland Bank Professor of Money and Banking at the University of Nottingham.

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branches or subsidiaries of EC financial institutions, and to transactions in securities on the various stock exchanges (Commission of the European Communities 1989). Among the permissible activities defined for banks are "investment activities"—identified as brokerage, market-making, and portfolio management—as well as trading for one's own account in transferable securities, money market instruments, financial futures and options, and exchange and interest rate instruments. Following universal banking lines, banks are also allowed to own stock in nonfinancial entities, limited to 60 percent of a bank's capital.

The "common passport principle" is a major means of implementing the single internal market program for 1992. The Second Banking Directive, with its technical supporting measures, establishes a single banking license that enables authorized banks to provide the whole range of permissible activities in all member states, regardless of local law, on the basis of home country control. A parallel Investment Services Directive provides a "common passport" for investment services firms (securities houses). Banks are thus able to undertake a broad range of securities activities, and they can gain access to securities markets and exchanges throughout the EC, either directly as banks or by acquiring or forming subsidiaries to undertake investment services (Key 1989).

Although many U.S.-based commentators would prefer to discuss the desirability of such links, this commentary focuses instead on three other questions:

1. What forces have prompted the merging of commercial banking and investment banking?
2. What consequences follow from the trend to universal banking for the structure of a single European securities market?
3. What are the implications of the trend to universal banking for the old question of the appropriate relationship between banking and commerce?

The Merging of Commercial and Investment Banking

Deregulation has clearly been an important proximate factor, with London's "Big Bang" followed by later financial reforms in France, Spain, and other Western European countries. But decisions to deregulate do not occur in a vacuum. A public interest type of explanation could point to a major revision in early postwar attitudes toward governmental controls across a number of countries and activities, which has led to privatization and structural deregulation in

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a number of fields, including financial services. Competitive and technological developments have also eroded industry boundaries and reduced the effectiveness of inherited regulatory methods.

Deregulation is also responsive to pressures from firms in the regulated industries, and there may have been a parallel alteration in their attitudes toward governmental controls. In the aftermath of the 1930s, caution was probably uppermost in bankers' minds; and with competition subdued, regulation may have initially served their interests. Only later, as memories faded and with a new generation of bankers, would the benefits of enhanced competition be stressed.

On both public and private interest grounds, I agree with Ferrara (1990) about the importance of new technology in eroding barriers between countries and in broadening the range of financial services that can be provided profitably by the financial firm. In this context, "new technology" should include theoretical development in the theory of finance. In particular, Black and Scholes (1973)—who found that by continuously adjusting holdings of existing securities one is able to manufacture new ones—provide the intellectual basis not only of option pricing but also of "financial engineering" generally and the creation of "manufactured" or "synthetic" securities.

Pressures for change have also come from economic growth and financial sophistication, with more companies switching from informal banking markets for their financing needs to the organized securities markets. Borrowers can be thought of as forming two groups: first, governments and large corporations with an established financial record; second, those entities for which information cannot be communicated readily either because of high evaluation or monitoring costs or because the firms are unwilling to release information to the public. When a country is industrializing rapidly, a large number of its borrowers will fall into the latter group and be reliant on bank lending. As economic growth proceeds, more borrowers can be expected to move from the second to the first group, and financing evolves from the use of credit to the greater use of capital markets. Banks have both followed and led their customers to the securities markets, developing financial instruments that jointly meet their securities and banking needs.

Free competition, especially in the Euromarkets, has been a major part of the story. Securities markets are passing through a process of globalization, much as occurred in banking 20 years ago. Banking markets in different countries (and currencies) were then separated by controls and regulations. These differences created opportunities for banks in the Euromarkets, and the diversion of domestic business to them led eventually to pressures for domestic financial liberaliza-

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tion, creating one international, short-term money market. Regulatory and informational barriers have also kept securities markets apart. These barriers have encouraged the growth of Eurobonds, and the decline of foreign bond issues has led to removal of many of the restrictions on domestic markets, paralleling what happened in banking. Nevertheless, this process is far from complete, and the new synthetic instruments effectively arbitrage the remaining regulatory and informational differences between markets.

Figure 1 shows how some of these elements fit together. Financing activities are classified into the origination of loans or securities, the distribution and warehousing of the loans or securities, and the provision of liquidity.[1] Traditionally in many financial systems these activities have been segmented into banking and securities markets, but the new instruments have increasingly blurred such distinctions. For instance, a multiple option facility (MOF) is a committed revolving credit line issued by a bank that enables a borrower either to obtain funds by a bank advance in a variety of currencies or to issue commericial paper or notes underwritten and distributed by the bank or a tender panel.

Another example is the creation of a synthetic security (see Lewis 1988). Combining an asset/liability with a hedging instrument (such as a financial futures contract or an interest rate or currency swap) creates a synthetic asset/liability with different interest rate, currency, or maturity characteristics. A large portion of issues of fixed rate bonds are "swap-driven"; that is, they form one leg of such a transaction. Because commercial banks play a major role in the swap market (swap positions outstanding at the end of 1989 are said to amount to $2 trillion), their entry to the international bond and securities markets has been easier.

Unless regulations prevent them, banks have diversified into one or more of the origination, distribution, or market-making in securities, especially in the Euromarkets. Any bank or securities firm from any country is free to compete in the Eurobond and Euro-equity markets, utilizing their perceived competitive advantages: Investment banks have good links with institutional investors, universal banks have associations with retail investors, and other banks can draw on established relations with corporate clients to meet the totality of the firms' financing needs (see Quinn 1989). This is not to say that all banking firms should undertake all types of securities business. Not all of the link-ups between commercial banks and

[1]For a discussion of the ways in which banking and securities markets provide liquidity, see Lewis (1990).

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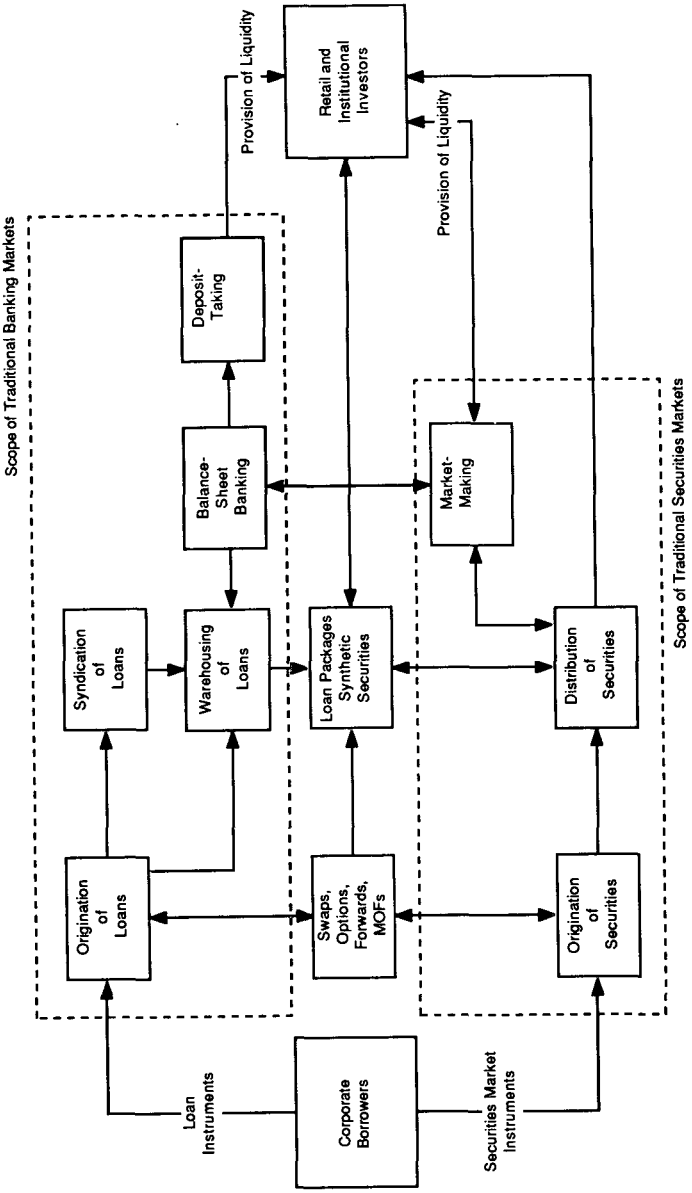
FIGURE 1

SECURITIES AND BANKING MARKETS



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securities houses after the Big Bang have been successful: The established universal banks have generally performed better than the new ones put together by mergers and acquisitions. Nevertheless, the relative absence in the Euromarkets of legal restrictions on financing techniques has enabled banking firms to experiment with various combinations of financial activities and to settle on the one that works best for them.

The securitization process in banking markets has also made the similarity of some banking and securities market operations more apparent. Banking services have usually been fully integrated vertically within particular financial firms. Unbundling enables origination to be separated from the lending of funds or the warehousing of loans; it also enables other parties to insure the loans and still others to do the loan packaging, with different firms acting as trustees or collecting loan repayments. In functional terms, it is difficult to distinguish between underwriting and placing a debt issue on the one hand and originating a loan that is on-sold on the other. Many institutions syndicate loans and securities issued in the same department.

Those who argue for separation and insist on letting "bankers be bankers," "brokers be brokers," and "insurers be insurers" (Klein 1988) must accept that one market test in the Euromarkets offers little support for segregation. For many firms a universal banking model is the organizational form to which they have evolved.

A Single Bourse for Europe?

When banks become involved in securities markets, there are ramifications for the way in which European securities markets might be integrated. Presently, primary and secondary markets are highly fragmented, with nearly 40 different stock exchanges: some trading by open outcry, some by means of competing market-makers, some on screens, some with specialists, and some with auctioneers matching orders.

A market can be centralized formally around trading on the floor of a single exchange, which is typical of many continental bourses. In most cases, this involves relatively short auctioning sessions, although France, Spain, and Belgium have sought to transfer such order-based trading to screens by adaptation of CATS (developed in Toronto), whereby orders are matched by a computerized auctioneer. Alternatively, a market can be created by trading among the in-house dealers of banks and other institutions in an over-the-counter market. For the time being, competitive in-house market-making is the rule in London, with each market participant linked to the others by

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telephone and screen displays. An over-the-counter market can also be intra-bank, which is the pattern in Germany and Italy where banks operate an internal marketplace by drawing on their own holdings of securities and matching buy-and-sell orders from among their own customers and business contacts.

Which is better? The simple answer is that each has its merits and drawbacks: Advantages are claimed for the auction system in terms of information and transparency and for dealer markets in terms of continuity and price stability. In auction markets, orders are transmitted to brokers or agents who represent transactors in a single-capacity basis, and buy-sell orders are matched on the trading floor. This allows adequate dissemination of information, equal treatment for all bids and offers, and open pricing by all participants. Off the floor, dealing is necessarily bilateral with pricing a result of one-to-one negotiations.

Both types of systems lend themselves to modern communications and can be said to be "transparent." The difference comes in the nature of the information transmitted. Dealer systems are quote driven: Market-makers display the latest bid-ask prices on SEAQ, but deals are struck on the phone. By contrast, agency-auction markets are order driven and have obvious merits if the aim is for market prices to quickly embody all current information about the demand and supply for securities. Also, because of the centralization of trading, agency-auction markets usually transmit information about completed transactions more quickly than markets based on diffused market-makers.

In dealer markets, prices are set by market-makers who buy up securities from the mass of sellers and on-sell them to the buyers, with a bid-offer spread. For transactors, the great boon of auction markets is that matching orders can be crossed directly without incurring the dealer's turn, while liquidity is achieved by having all buy-and-sell orders routed to one location and by limiting the duration of the auctioning process. The drawback is that continuity of pricing exists only for as long as the floor is open or while the stock is called. As Globex has demonstrated, dealer markets seem readily adaptable for 24-hour global trading with market-makers offering immediacy to large institutions in block trading.

There seems to be no good reason why the respective merits of auction and dealer systems cannot be subjected to the market test, allowing operators to transact in the market format that suits them best. Many markets, including the New York Stock Exchange (NYSE), already combine features of both. The NYSE is linked to other exchanges in the United States through the Intermarket

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Trading System (ITS). This linkage ensures that orders are exposed to the appropriate market-makers in all the venues where the particular stock is traded, and it enables a broker to find the best prices.

Such price visibility provides a model for the Interbourse Data Information System (IDIS) that is planned for Europe, which would ensure that trades are made in the most advantageous venue in the EC. A significant difference would be that ITS uses a single currency—the dollar—while IDIS would have to cope with many currencies. Use of the ECU for pricing might remedy this, but inflation differentials and the periodic exchange rate adjustments they entail have an impact on the value of the ECU and reintroduce exchange rate risk.

Banking and Commerce

The trend to universal banking also leads to the question of the desirable relation between banks and industrial enterprises. One tradition is evident in the German-Japanese case of close bank-industry links, where banks acquire company stock and often sit on the board (Germany) or form part of linked groups (Japan). In the Anglo-Saxon tradition, there is an arm's length relationship reinforced by explicit legislation separating banking from commerce (as in the United States) or, at least until recently, by unwritten rules discouraging banks from commercial enterprise (in the United Kingdom).

Recent developments in banking theory offer an interesting perspective on these different approaches.[2] The theories argue the special informational role of banks when supplying credit for activities which, because of price-sensitive information or high evaluation, monitoring, and enforcement costs, cannot easily be funded by the issue of securities in the open market. By specializing in information production, banks save lenders the trouble and expense of gathering information themselves. A related service is that of monitoring the performance of borrowers without divulging publicly the information acquired.

For both of these services, close links between banks and industry would seem to allow a ready conduit for information to flow to the bank, better monitoring of a borrower's performance, less potential for opportunistic behavior, and risk-sharing within a group of affiliated companies. Such factors seem likely to account for the higher leveraging of German and Japanese companies relative to American

[2]The original contributions came from Leland and Pyle (1977), Campbell and Kracaw (1980), and Diamond (1984). Chant (1991) and Lewis (1991) provide recent surveys of the extensive literature that has developed.

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and British firms, without raising bankruptcy rates (McCauley and Zimmer 1989).

Historically, links between banks and industry were not uncommon. Although textbooks frequently trace the evolution of modern banking to 17th-century London goldsmiths, there were many paths to banking and the earliest bankers were merchants. For a merchant, the granting of credit is a natural extension of trade dealings, and the firm seems likely to evolve into a bank by lending to enterprises with which it has established business relationships.

By contrast, the Anglo-Saxon model did not arise spontaneously. Separation of banking from commerce began when the Bank of England was chartered as a private banking corporation in 1694. It was not allowed to "deal or trade . . . in the buying and selling of any goods, wares or merchandise whatsoever" (Schull 1983, p. 260), and later acts granted it "monopoly privileges" over banking. These provisions were copied in the United States. The early U.S. banks were given monopoly rights over banking, and private individuals and firms were prevented from taking on banking functions once banks were chartered. Matters developed from there.

Such restrictions were and probably remain rooted in the public policy role created for banks. Originally, banks were regarded as a quasi-public utility involved in raising funds for lending to the federal or state government, establishing a sound currency, and providing financial assistance to local trade and commerce. Nowadays, banks are seen to have a special role as the creators of money, as custodians of the nation's liquid assets, and as the principal conduit for monetary policy. It is argued that they must not put other people's money at risk and must follow prudent rules about investments.

On this reasoning, the case for separating or for not separating banking from industry turns on whether close government-bank links are really needed in monetary affairs. If advocates of free banking can uphold the view that governments ought to be distanced from money and finance and that banks need be treated no differently from other private entities, then the case for special restrictions on banks' activities would lapse. Banks' links with other enterprises would then be left for market decisions to determine. Not surprisingly, there is a case for "free financing" that parallels the case for "free banking."

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The Single European Financial Market

Pedro Schwartz

The regulators in our midst see the single European financial market as something that will happen as soon as they permit it but not before—all culminating in the *annus mirabilis* of 1992. But the causation of social processes is more complicated. Interests, personalities, technological conditions, institutions, and ideas contribute to the shaping of history, perhaps in that order in time and in the reverse order in importance.

The single European financial market now appears to be in the interest of most participants, but groups and individual personalities still want to control it for their own profit. The technology is irresistibly linking markets, despite institutional barriers. Institutions are being created that are ambiguous in their effects; also ambiguous are the ideas floated. On this count, the expectations ought to be uncertain.

But the die is cast. The single market is already here for many financial activities, and it will deepen and ripen unstoppably during the 1990s and into the next century. Why am I optimistic? I am sorry provisionally to have to give a Marxist (or should I say a Stiglerian) answer: The new information technologies will link Europe with the world financial markets, especially those of America, Oceania, and the Far East, and will make the European financial market part of a global financial market.

What Is Involved

It is not easy to give an idea of the size of the European financial market compared with the markets of the world, especially those

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The author is Director of Iberagentes, S.V., S.A., and Professor of History of Economic Doctrines at the Universidad Complutense de Madrid. He is a former member of the Spanish Parliament. This paper was presented as a luncheon address at the Cato Institute's Ninth Annual Monetary Conference in London, February 22, 1990.

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of America and Japan. These markets involve not only the stock exchanges, which can be measured by capitalization, but also the contributions of banks, perhaps measurable by the netted sum of their balance sheets, the net transfers of the public sectors, and cash. The account is complicated by statistical incompleteness and the dangers of double counting. I will content myself with comparing the stock markets, GNPs, and populations (see Table 1).

There are many reasons for the discrepancies between Europe, the United States, and Japan. I do not doubt, however, that the trend will be for a relative increase of the GNP of Japan and in the size of *integrated* European stock markets. I emphasize "integrated" because the whole point of the exercise is to increase the amount and quality of financial services, however measured, by the creation of a single European financial market.

How far has this integration proceeded? If we start with the tip of the inverted financial pyramid, we see monetary arrangements are still rather compartmented. I do not mean by this that Europe has not yet reached monetary union, nor that the Delors Report is too far from being implemented, especially as regards the creation of a European central bank. Monetary integration for me does not mean regimentation nor "all power to the central bankers." By lack of integration, I understand that exchange controls still exist in many countries of the EEC and some of EFTA: Italy and France are a long way away from uncontrolled short-term money flows, Belgium inexplicably keeps the two-tier exchange system, Spain uses foreign transaction reporting for fiscal control, and Greece and Portugal resist attempts to make them give up smoking.

The situation regarding long-term capital investment is a little better. The recently arrived countries in the EEC retain some control on real estate. Spain has liberalized all exports of capital and all

TABLE 1

EUROPE IN THE GLOBAL ECONOMY, 1989

	Population[a]	GNP[b]	Stock Exchange Capitalization
Europe	409	4,979	1,860
United States	244	4,473	2,481
Japan	123	2,377	3,840

[a]In millions.
[b]Billions of U.S. dollars.
SOURCE: CCF, Iberagentes, *Marchés Européens*.

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exports barring four key industries. A recent report of the Brussels Commission, *Creation of a European Financial Area* (May 1988), underlined the existence of indirect ways of affecting capital flows between countries, through tax breaks for buying local securities or regulatory restrictions, such as limiting the proportion of foreign securities to be purchased by insurers or other financial intermediaries.

As far as banks and savings banks are concerned, the competition in the market is making transnational banking a more tangible reality every day. The EEC's first and second directives on banking seem to be helping to even out the playing field between the different countries, but such intervention would not be necessary if the free right of establishment were completely recognized. The Tiebout principle would chastise governments that over-regulate their financial systems, and foreign banks would set up subsidiaries on the strength of their more profitable home head-houses. If, as I suspect, universal banks are not very adept at governing industries, then why bother limiting the amount of industrial shares that a bank can hold? Such a rule only angers the German and the Spanish.

Also, cross-border associations between banks are increasing: Banco Santander and Royal Bank of Scotland: Deutsche Bank acquires Morgan Grenfell; AMRO Bank cum Pierson G. P. work together with Sal Oppenheim: Hambro's, San Paolo, and BBV exchange minority portfolios; and everybody, especially the Spaniards, try to get into Portugal. These are only the arrangements I have been in touch with personally. There are many more.

The stock exchanges are competing and linking with one another. Again, the efforts of the EEC Commission are pathetic. A lot of weight is put on the Interbourse Data Information System, allegedly "to better the transparency of those markets, reduce costs, and improve settlements." They have not heard of Reuters, it appears. In any case, all the exchanges are going through mini-bangs; from what I have experienced in Spain, the customer benefits and the brokers grow white hair, which is as it should be.

The transformation may have some welfare costs, but some of the adduced ones are not attributable to the integration of markets. Thus, there are high and volatile interest rates. These are the companions of the currency serpent, and they would behave differently if the monetary arrangements were freer, both in the sense of freely floating exchanges and *full currency choice*.

The Regulators

As the integration proceeds, it will contribute both to a higher volume of financial transactions and to the productivity and welfare

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of Europe and the world. This much has even entered the head of the regulators, whether in the Commission or in the capitals of the EEC member nations. Let me put it more kindly, for I do not wish to make a straw man of the Brussels bureaucrat. Some of the regulations issued in directives have contributed to the furtherance of integration, that is, free trade (or in the traditional French phrase, laissez faire).

The application of Article 67 of the Treaty of Rome has been slow, but it took off again with the passage of the Single European Act. The proposed directive is admirable in its brevity:

1. The Member States will derogate the restrictions to the free movement of capital that takes place between persons resident in the Member States.
2. Transfers derived from capital movements will be carried out in the same conditions of foreign exchange as those in practice for the payment of current transactions.

When this is applied and if it is interpreted widely by the courts, the legal basis for a single European financial market will be there.

Some of the compromises arrived at recently are very wise. Thus, the increasingly applied criterion that domestic law is European law does away with the need to hammer out agreed single legal texts. Also commendable is the rule applied to banking by the first banking directive that "the control is that of the home country, the regulation that of the host country."

The Institutions

I have already criticized some of the sillier attempts at regulations, so only the EMS calls for particular treatment here. The best arrangement would be to have freely floating, freely competing national (and private?) currencies. A reverse Gresham Law would apply. Optimal currency areas would appear; optimal currency layers would appear as well, inasmuch as diverse currencies might be used by the same person for different purposes.

The second best arrangement would be immediate currency union, or European Monetary Union (EMU). If total unification is accompanied by free exchanges, free capital movements, and free contracting in any chosen currency (including the payment of taxes), then the situation might be acceptable. Obviously, the central bank of such a system should have to be reliable. (*Quis custodet custos?*)

The EMS halfway house is the third best alternative by far. It is even doubtful that it will lead to the EMU. Milton Friedman has

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noted the "ridiculous situation" in which adherence to the EMS has placed the European partners of West Germany. No less than 80 percent of the balance-of-trade surplus of the FRG is with other EEC nations. During the first three quarters of 1989, Spain's deficit with Germany was 20.9 percent of its total commercial deficit with the world. Meanwhile, the surplus of Germany with Japan and the United States is almost nil. It is clear what this means: The Deutsche mark is undervalued; it could become overvalued. Herr Pöhl is not perverse; he simply is pegged to other currencies at the wrong rate for political reasons. The justification for the EMS is political; namely, how to get money creation out of the clutches of profligate national governments. I could think of simpler ways to get there.

I am in favor of free competition in currencies, but not everyone is convinced. The main hurdle is the banking regulation and lender-of-last-resort functions of central banks. People are not convinced that a safe European Monetary System can exist without a European central bank. More work needs to be done here, and perhaps the analogy of the Euro-currencies markets might help.

Thought and the Events in Central Europe

I believe that interests are perceived by minds and technology grows out of science, which is in the mind first. I also believe that truth is useful and societies that do the right thing tend to survive. As I heard Gary Becker say recently, the ideologies of the East have crumbled because the capitalist system has been thought out in part and incrementally by many philosophers. If facts help them, it may mean that they were right.

The opening up of Central Europe is jeopardizing the Little Europeans in the train of M. Delors. A larger, freer Europe may be in the making. But the liberals thought of it first.

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The Choice of Currency in a Single European Market

Pascal Salin

A "unique market" for commodities and factors of production ought to exist in Europe in 1993, and the great majority of people believe that all possible efforts must be made to move toward the unique currency that is deemed necessary to implement such a market. "A unique market, a unique currency, a unique central bank"—that is the fashionable slogan.

I do not share this view for reasons that are drawn from economic theory and are explained in this paper. I will begin with a discussion of concepts, such as "unique market" and "economic integration," and show why a unique market does not imply the existence of a unique currency. It will be made clear that Europe's present monetary problems have not been caused by an excessive number of currencies but by institutional characteristics of both the existing national monetary systems and the European Monetary System. Therefore, the priority ought to be given to institutional changes—mainly by reintroducing decentralized responsibility—and not to establishing a unique currency and a unique central bank. The paper concludes with a discussion of the practical aspects of a competitive approach to European monetary integration, as regards both competition between currencies and competition between monetary systems.

The Unique Market and Monetary Integration

The unique market that has been promised to Europeans in 1993 is an ambiguous concept. Moreover, there is no logical link between economic integration and monetary unification. There may be reasons for reducing the number of currencies in Europe, but these

Cato Journal, Vol. 10, No. 2 (Fall 1990). Copyright © Cato Institute. All rights reserved.

The author is Professor of Economics at University Paris-IX-Dauphine. He thanks Lawrence H. White for useful comments on an earlier version of the paper.

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reasons are independent from the possible creation of a unique market.

A Unique Market: What Does It Mean?

The evolution of the European process of integration since the creation of the European Economic Community (EEC) has been characterized by a progressive shift of emphasis from the initial—and satisfactory—concept of a common market to that of a set of common and harmonized policies, which may even be opposite to the initial aim. Will the "unique market," which has been promised for 1993, consist of a return to the initial impulse, or will it be something different?

The shift in policy directions has been reinforced by a semantic confusion between two meanings of "integration": "integration of markets" and "integration of producers." A market can be considered "integrated" as far as there are no "artificial" obstacles to the free choice of producers and consumers. The aim of the common market was to make it possible for Europeans to buy and sell goods all over Europe without having to be concerned about the nationality of trading partners.

Free trade, which is implied by a common market, does not mean free markets. It means only the suppression of *specific* obstacles (such as tariffs), which are applied whenever trade occurs between different (national) areas. When there is free trade, traders have the *right* to trade. Free trade does not mean that markets are free from public interventions over the entire free-trade area. Specific taxes, subsidies, or regulations may exist on some portions of this area, for example, in different countries.

From this point of view, the integration of markets aims at reinforcing competition among producers. Competition does not necessarily lead to the homogenization of commodities, contrary to what is suggested by the traditional theory of competition. In reality, the consequences and the merits of competition stem from each producer's incentive to differentiate his production in order to do better than his present and potential competitors. In some cases, competition may lead to a smaller diversification of products; but as a general principle, increasing competition increases diversification. Therefore, we may suspect at this point that there is a contradiction between the reinforcement of the "common market" and the emphasis on "harmonization."

In fact, integration is generally understood as "integration of producers," which more or less means cartelization and not competition. The aim is either to replace existing producers by a small number of

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producers or to impose the same environment on all producers. But *common policies* may avoid or limit free competition. European authorities have skillfully created and maintained the confusion between the two meanings of "integration." Thus, they meet an obscure feeling of public opinion according to which any agreement, any cooperation, any "harmonization" is desirable.

This confusion in language is very close to another confusion that exists between "competition" and "the harmonization of the conditions of production." Most people believe that competition is "unfair" when producers are not placed in the same productive environment, which explains the present efforts toward the harmonization of regulations or taxes.

Competition implies freedom of choice, by producers as well as consumers, specifically the freedom of entry. But it does not imply that all producers should operate in the same environment and should be subject to the same "competitive conditions." Economic theory—particularly the theory of international specialization—brings the fundamental lesson that producers of the same product operating under different conditions have the responsibility, in combining various factors of production, to make allowance for the particular constraints they are subject to in order to make their products competitive. Because integration is usually interpreted in terms of production and not markets, the claim for harmonizing "competitive conditions" has been translated, in every sector, into a search for common European policies and harmonization of taxes and regulations.

The "unique market" is thus interpreted as necessarily including the harmonization of production conditions. To be sure, one does not try, for the time being, to harmonize everything, and the principle of mutual recognition of norms is an interesting example of officially accepted differentiation. The general direction, however, is toward harmonization. The concept of the "unique market" thus seems to mix the notion of a common market—that is, free trade—and the notion of a constructivist effort in favor of the harmonization of the conditions of production. In that sense, the "unique market" rests on a fundamental intellectual error. Before focusing on the specific case of monetary arrangements, let us consider the field in which efforts toward harmonization have been the most explicit, namely, taxation.

To make the "unique market" possible in 1993, the EEC Commission, supported by most officials and commentators, defends the idea that fair competition is impossible without harmonizing VAT rates and some other taxes. The core of my argument is this (see Salin

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1988, 1989): Some taxes—for instance, the VAT—do not affect relative prices and, therefore, the conditions of international specialization, so that there is no need for harmonization. In cases where taxes introduce specific distortions among countries, competition in tax systems is better than harmonization. It may introduce incentives for governments to suppress these distortions.

With free trade, the price of a given commodity tends to be the same in different countries, but it is likely that the structure of costs is not the same in all countries. Two producers can be "competitive" on a market even if their conditions of production are different. For example, a Spanish tomato grower and a Dutch tomato grower use very different production techniques because they work in different environments. The Spaniard enjoys much more free sunshine, but the Dutch tomato grower can be competitive with greenhouses heated by natural gas. Under such conditions, it would be absurd to call for the "harmonization of competitive conditions," that is, to pretend to offer more sunshine to the Dutch growers, to subsidize the use of natural gas by the Spaniards, or to oblige Spanish producers to cover their plants with a canvas in order to protect Dutch producers from the "unfair competition" from sunbeams. The only important thing is to secure competition on the markets for commodities and factors of production.

It is absurd to try to "harmonize the conditions of production" in a free market economy, so that all producers could produce with exactly the same structure of costs. I do not see any difference between the (impossible) harmonization of sunshining conditions and the harmonization of tax conditions. Taxation is only one characteristic of the environment to which producers have to adjust, and there is no more justification for harmonizing one tax than any other part of production costs.

The main problem is not harmonization but "optimal taxation and expenditures." We shall see that in the monetary field the problem is not harmonizing money production and monetary systems, but providing for "optimal money." But, there is no rationale for harmonization per se: Why, for instance, should we harmonize toward a possible standard of over-taxation and spoliation? Similarly, why should we direct monetary integration toward a possible standard of over-production of money?

When aiming at tax harmonization, the EEC Commission and its administration, the national governments and the medias that support them, are wasting their efforts to reach targets that have no meaning. There is nothing to add to the common market in order to have a unique market. *The "unique market" already exists.* If there

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is no justification for shifting from a common market to the "unique market," then another direction ought to be taken, namely, shifting from a common market to free, or deregulated, markets. This deregulation can be obtained through either an explicit and centralized process of public decisions or a more competitive process. The "unique market" would not be made *unique* because of harmonization and centralization, but it would be closer to a *market* if it were deregulated. The emphasis must be put on "market" and not on "unique." This shift of emphasis applies perfectly to monetary integration.

A Unique Market without a Unique Currency?

It is widely thought that a unique market needs a unique currency and, therefore, a unique central bank. This opinion reflects the more general idea according to which European integration consists of creating a super-nation on the model of existing nations. The traditional slogan, "one nation, one state, one currency," is merely translated into European terms, and the possibility of disconnecting the national zone and the monetary zone is considered an absurdity.

In fact, we must apply to money the same reasoning that we applied to the production and circulation of commodities. A single market for money is not necessarily a market in which production is cartelized by force or in which the conditions of production are harmonized. A single market or an integrated market exists in a given area as far as there is freedom of choice for producers and money-users.

A unique market for commodities and production factors does not imply the creation of a unique currency, because the differentiation of currencies is not an obstacle to the free movements of goods, currencies, and financial assets. Modern economies are complex social systems, founded on individual specialization and exchange, because they are monetary economies. To play its role as a means of indirect exchange and reserve of value, money need not be a homogeneous product; it needs to be a *good currency*. Similarly, an exchange economy relies on systems of communication and telecommunication, but not necessarily a unique communication or telecommunication system. Only in a centrally planned economy might it be easier to use a unique currency. The claim for a unique currency may be a consequence of the confusion between a single market and a centrally regulated economy, which seems to be the aim of many Europeans.

Although the creation of a unique market—whatever we understand it to be—does not justify the existence of a unique currency in Europe (or, at least, a system of perfectly substitutable currencies,

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that is, a system of fixed exchange rates), there may be other reasons to limit the number of currencies. The aim of any monetary arrangement ought to be the production of a "good" currency, which plays its role as an "undifferentiated purchasing power." The moneyness of a monetary unit depends on its ability to be exchanged against any other good, at any time, and with anybody. The liquidity of money has two components: the stability of its purchasing power and the dimension of the zone in which it is circulating.

We more or less know what a noninflationary currency is, but we do not know the optimal dimension of the monetary zone, which may have to be discovered from experience. It is obvious that gains might be realized by increasing the dimension of a monetary area, as far as there are economies of scale, externalities, or economies of scope in the production of money. However, the optimal dimension does not necessarily correspond to a unique currency in Europe (or in the world). There may be a dimension—narrower than Europe—beyond which the marginal gain from enlarging the zone is negligible.

Thus, the specific characteristics of money production imply that the differentiation of currencies be limited, contrary to my argument that competition normally creates differentiation. This does not mean, however, that the process of competition must be controlled in order to avoid excessive differentiation. Quite the contrary. If gains can be obtained by limiting the number of currencies, then competition is the best way to reveal such a situation, because there are always people in a free system to extract potential gains. It is, therefore, likely that, if currency competition was ever to prevail in Europe, the market would select a more limited number of currencies than there are currently, and possibly only one of them. Even if the spontaneous working of the market were to select a unique currency, however, it would not be necessary—and not even desirable—to have a unique central bank in Europe.

Rather than imposing a limited number of currencies or a unique currency in Europe, it is important to think about the institutional structures that would make "good" currencies (or a good unique currency) possible in Europe. The problem with the present monetary organization in Europe is not that there is an excessive number of currencies. The problem is that there are institutional flaws, both regarding the organization of national systems and the organization of the European system of central banks.

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The European Monetary System: Present Reality and Future Prospects

Modern monetary systems are founded on *institutional irresponsibilities*. This is the case with the European Monetary System and plans for the future—for instance, the proposals included in the Delors Report—do not bring any remedy to this feature.

If we consider the great number of possible monetary systems, it is striking that all modern monetary systems are built on the same pattern. The likely reason is that these systems are the product of public design and not of a spontaneous process of evolution. To better evaluate the working of modern monetary systems, and specifically of the European Monetary System, we should consider a different system that might develop under free banking: a nonhierarchical system with convertibility guarantees in terms of an "external" asset, such as gold.[1]

Each member bank in such a monetary cartel[2] gives two convertibility guarantees, one in terms of gold ("external guarantee") and one in terms of the currencies issued by the other member banks ("internal guarantee"). If a bank issues too much money, then it loses gold (because some customers want to exchange that currency against gold). It has an incentive to adopt a more restrictive monetary policy in order to avoid a loss of customers and a possible failure because of a crisis in confidence. The adjustment process may also be reinforced by the pressure put on it by other member banks. In such a system, each bank is responsible for its own convertibility guarantees—both external and internal—and its adjustment process. Bad management—that is, the provision of a bad currency—is sanctioned.

This example demonstrates that a well-functioning monetary system with a unique currency—the currency issued by the monetary cartel—is perfectly compatible with a multiplicity of banks and decision centers. All decentralized decision centers adhere only to coherent rules of the game.

Moreover, as far as freedom of entry is maintained, so that several (actual or potential) monetary cartels exist, external competition prevents a member of a monetary cartel from trying to obtain a monopoly

[1]See, for example, White (1984), Selgin (1988), and Salin (1990).

[2]The use of the term "cartel" may be disputed, since a cartel is usually defined as an organization whose members collude to offer their products at the same price. I adopt a more extensive definition of the term here, however, as meaning actions taken by producers to suppress the differentiation of their products. It is the case with banks that make their currencies perfectly substitutable, even though this result may not be obtained by an explicit "cartel" agreement but by isolated and convergent decisions of banks.

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position and from issuing a depreciating currency. Thus, decentralized responsibility inside the cartel and competition outside are efficient ways to discipline monetary production.

Present national monetary systems are designed according to a hierarchical model. The commercial banks—or second-rank banks—still give formal convertibility guarantees in terms of the central bank's currency and the central bank occasionally gives external guarantees, if the system is some sort of a (pseudo-) gold standard or a fixed-rate system. But the central bank is indirectly in charge of giving "internal" guarantees (between currencies issued by the member banks), because commercial banks can issue unlimited amounts of money if the central bank is not inclined to adopt a tight monetary policy. The role of the central bank as a lender of last resort can be interpreted as a (partial) transfer of responsibility (regarding "internal guarantees") between commercial banks and the central bank. Contrary to what happens in a decentralized system, banks have no incentive to limit money creation. Each bank participating in such a monetary cartel has an interest in trying to widen its market share, and there is constant pressure in favor of money creation. Instead of being a self-regulating system—as is the case with decentralized guarantees—there is a command system, especially if the central bank uses discretionary monetary instruments to limit money creation. The inflationary bias of modern monetary systems stems from this institutional characteristic. This transfer of responsibility between banks, however, would not be possible if central banks were issuing convertible currencies at fixed prices.

Institutional irresponsibility is reinforced by two other characteristics. First, the central bank as a public institution is entitled to act in a discretionary manner. For instance, if the central bank is ever supposed to give an "external" convertibility guarantee (fixed rates in terms of gold or a foreign currency), it considers it normal to change the guaranteed price on a discretionary basis. The possibility that a currency may be devalued weakens the external discipline of convertibility. Second, monetary authorities can more or less isolate the national system from external competition by enforcing legal tender laws or exchange controls. Thus, modern monetary systems are inflation prone because there is a lack of self-adjusting incentives inside the system and a lack of competition outside. This situation is certainly true of the European Monetary System, which may be one of the worst solutions to international monetary organization. It can be analyzed as an *international cartel of national cartels*. The national cartels are organized according to the scheme we just outlined: They are hierarchical, public, and compulsory. The international cartel is

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a European cartel of public central banks. It is symmetrical but with no external convertibility guarantees, which would limit the incentives to create money in a decentralized fashion.

The usual proposals concerning European monetary integration do not solve these problems, and they may even reinforce institutional irresponsibility. Thus, the Delors Report has proposed a pooling of official reserves in the second stage of the integration process. As a consequence, if a central bank adopts an excessively expansionary monetary policy, then the loss of reserves—which presently plays the role of a decentralized signal—would be "collectivized" and the incentive to correct the policy would be greatly reduced.

In the longer run, the creation of a unique currency and a unique central bank would not cure present problems in that they would not diminish institutional irresponsibility. As in present national systems, there would be a lack of decentralized incentives to limit money creation and possibly a lack of external competition. The cartel managed by the European super-state would probably use discretionary monetary management and could enforce exchange controls and other harmful devices under the pretext of protecting the European balance of payments. The very nature of the European Monetary System would not be modified by substituting a hierarchical discretionary system to the present European cartel of national cartels.

A Competitive Approach to Monetary Integration

A competitive process of integration is better than a centralized and constructivist process, not only because it leaves to the market the choice of the unique currency but also because it creates competition in monetary systems—that is, competing institutional arrangements—possibly producing the same currencies or the unique currency. Beyond that, it allows competition for the production of all sorts of monetary and financial services in which gains from cartelization may be different. This is important since, as we have just seen, the main problem of modern monetary systems and specifically of the European Monetary System is not that there is no unique currency within a large monetary area—for instance, in Europe—but that the systems are founded on institutional irresponsibility. Therefore, monetary systems must be designed so that this irresponsibility is diminished or suppressed or the market must be allowed to select the best monetary system.

Currency Competition

There are solutions that correspond to a more competitive approach than the one that is generally adopted. A system of free

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banking, in which anyone is free to supply and use a currency, is the best approach because it would increase the responsibility of individual banks. Free banking may not be acceptable for the time being, however, so it may be advisable to discuss other options.

The first possibility is to favor competition between *existing* currencies, which means substituting free-floating rates for the present European Monetary System. In much the same way that norms are mutually recognized, there would be a mutual recognition of currencies. As previously stressed, the flexibility of prices does not mean that there is no unique market; in fact, there would be a "common market in currencies." It is quite true that the diversification of currencies imposes various costs on money-holders (for instance, transaction, information, and risk costs), but this is the case with all sorts of commodities for which we accept such costs. Diminishing the diversification of goods would decrease these costs, but it would also limit freedom of choice for consumers and incentives to innovate for producers. Transaction costs can thus be considered as equivalent to investment costs: Investing in differentiation makes freedom of choice possible. This is true for currencies.

With currency competition, it is expected that, little by little, a currency or a limited number of currencies will be selected by the market as "common currencies." Although we suspect that most monetary areas in Europe are too small to extract all possible gains from large-scale production or economies of standardization, we do not know to what extent this is true. We also do not know beyond what size significant marginal gains can no longer be obtained by decreasing the differentiation of currencies. A competitive process would allow the market to determine the optimal monetary areas, and it would put pressure on central banks to hold back inflation in order to avoid a decreasing role for their currencies. From this point of view, responsibility for monetary management would be distributed among central banks in a more decentralized way, and each bank would be responsible for its own currency. If central banks had incentives to produce a good currency, then inflation rates could be low and exchange rate fluctuations could be limited, so that it would be largely equivalent for money-holders to hold one or the other currency. In such a case, the costs of differentiation would be minimized, and if ever a unique currency were to replace existing currencies, the process would be gradual and better accepted. From a practical point of view, such a competitive system implies the definitive disappearance of exchange controls or legal tender laws. It also implies possible changes in the organization of monetary systems.

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In today's world, a central bank has jurisdiction over commercial banks located in its national area, and it can impose any regulation or try to influence their reserve positions. Let us assume that Europeans are free to use any currency for any activity, but that national monetary monopolies still exist, in the sense that a bank would be obliged to issue only the national currency. As the worst currencies would be less and less used, banks issuing these currencies would have to leave the market.

Happily enough, banks are increasingly allowed to accept deposits in other European currencies. In this way, monetary competition is developing within Europe, although the European Monetary System is an attempt to cartelization. In a system of freely floating rates and freedom for banks to issue any European currency, there is an apparent difficulty if, for instance, a central bank in country A can impose reserve requirements on the banks in its national system, while the banks in other European countries are allowed to issue the currency of country A without having to bear the same requirements. There are some possible ways to overcome this "difficulty."

First, each central bank could be entitled to regulate the activities of all European banks as far as their currency is concerned. Thus, the central bank of country A could oblige all European banks to hold reserves in currency A in proportion to their deposits in the same currency. Second, there could be more deregulation, making each commercial bank responsible for guaranteeing the convertibility of the deposits it accepts in any currency. In this way, each bank would participate in different cartels (and possibly new ones, if freedom of issuance is accepted). In such a decentralized system, each bank would be responsible for ensuring that it is able to transfer deposits in terms of any European currency.

As Lawrence H. White has suggested, this question might not be considered a "difficulty" but a competitive solution. There would be several competing processes to produce the same currency, as is the case with the Euro-dollar. In a system that lacks self-regulatory mechanisms, however, as is the case in present systems, competition between banks could result in more money creation. Limits to creating money in present systems depend on the regulatory powers of the central banks, and they may be lightened by competition—not among different monetary systems, but inside each monetary system.

There is another alternative to a free banking system. Some European politicians may see the necessity for a symbolic move in the monetary field. For a long time I have considered the creation of a European parallel currency to be more than a symbolic step ("A Currency for Europe" 1975), but I am certainly less convinced of it

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now and I do believe that less-visible steps could be more important. The parallel currency approach, however, presents great advantages in comparison with the usual approach (exchange rate fixity with the final target of a unique currency and a unique central bank). In fact, it does not constitute an absolutely constructivist approach, and it leaves to the spontaneous working of the market the choice of relatively more desirable currencies. Freedom of choice exists, at least within a limited domain.

Competition in Monetary Systems

A common market—that is, free trade and free choice—does not necessarily produce completely free markets. In the field of taxation, for instance, I have argued that the harmonization of taxes was not necessary because it did not prevent free trade. Different systems of taxation and public expenditures, however, may be propitious to economic activity, and competition between tax systems might help to select those that better meet the needs of citizens. The same is probably true regarding money.

Competition between currencies—existing currencies, new public currencies (parallel currency), or private currencies—does not imply a forced harmonization of monetary regulations. But we can expect less-regulated monetary systems to be able to issue a more desirable currency or to issue a given currency more efficiently, so that it can lead to deregulation of monetary and financial systems. On the contrary, a unique European central bank would probably be endowed with regulatory powers based on the model of existing national central banks. This would make it more difficult to experiment with various means of monetary management, and the process of deregulation would probably be slowed down. There would be free trade, but no completely free markets.

To a large extent the modern bank is a product of regulations. In a deregulated world, the present roles of a bank—as money-issuer, financial intermediary, and producer of monetary and financial services—would be scattered among many different firms. Some would be specialized in a very specific job, some would link activities that are mainly separated for the time being (for instance, insurance and deposit management), and so forth.

To be sure, even with a unique currency, it is not necessary to have a unique decision center. In a deregulated and decentralized system, each producer gives convertibility guarantees, but he is responsible for them. Let us imagine, for instance, that two banks issue the same currency in that they give mutual guarantees of convertibility. But we can view a currency as a complex good or—

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according to the "new theory of consumption" (Lancaster 1966)—a bundle of characteristics. Currencies are claims on different firms that are managed differently (in a deregulated world), so that the confidence we have in the banks' capacity to maintain their convertibility guarantees may be different. In other words, although the claims on two banks benefit from the same convertibility guarantees and are formally considered substitutable, they are different goods, being claims on different firms. In a deregulated world, continuous efforts would be made to find the best combination of diversity and homogeneity. As perfectly exchangeable means of payments, monetary units have to be as homogeneous as possible, a process that occurs because of convertibility guarantees and cartel arrangements. We also know, however, that there are different ways of producing a given good. In a cartel, each participant may try either to be more efficient than the other ones (that is, to adopt different production processes) or to give his product different characteristics.

For example, assume that bank A and bank B belong to a monetary cartel and that their currencies benefit from convertibility guarantees. Bank A gives a positive return on demand deposits but no insurance against the risk of failure; bank B gives no positive return but a reliable insurance. From this point of view both currencies, although they are convertible one into the other at a fixed price, are not perfect substitutes from the point of view of consumers. Money-users do not just demand a convertible currency, they demand currencies with a bundle of characteristics. In this diversified system of free banking, each of them buys the currency that has the combination of characteristics he prefers. In return, the producers must find the precise combination of characteristics that will make it possible for them to give their currencies convertibility guarantees and to obtain the highest possible profitability. In such a world, we discover the "optimal" combination of diversity and homogenization.

We can imagine a centralized process of deregulation in Europe, but competition in regulations and between deregulated systems is still preferable. This may imply that banks would be free to choose their desired reserve ratios, interest rates on deposits and credits, means of insuring deposits, and so forth. In order to avoid fears about such a process of competition and deregulation, a completely free sector could be introduced along with existing ones, allowing consumers to choose one or the other. Thus, the process of integration in Europe would be based not only on a "common market for currencies" (currency competition) but even more on a "common market for monetary and financial systems." I am convinced that thinking

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about possible changes in monetary systems is far more important than enforcing the present view in favor of centralization.

There is no logical link between a unique market—whatever it may be—and a unique currency. A unique market, therefore, is perfectly compatible with a multiplicity of currencies and monetary systems, and there are reasons to prefer competitive approaches to monetary integration. But it is also true that there is no reason for limiting monetary integration to the borders of Europe. The optimal size of monetary and financial areas may be larger than Europe for some activities and smaller for others, and we must be cautious about the possible risks of Europe becoming a monetary fortress. The time may be here for new initiatives in favor of a worldwide approach, including competition and deregulation.

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Competition or Cartelization among European Currencies?

Lawrence H. White

There is little to criticize in Pascal Salin's very effective presentation of the case against a cartelization of European currencies under the aegis of a European central bank. Two points will perhaps bear amplification.

Harmonization of Seignorage Harms Money-Users

As Salin emphasizes, uniformity of tax, regulatory, or monetary policies across borders is not a virtue per se. Harmonized policies may be uniformly illiberal and anti-competitive. They *will* be anti-competitive when the motive for harmonization is the desire of each government to shelter certain domestic producers from the competition of less-regulated or less-taxed producers in other jurisdictions.

Monetary competition, like tax competition, is better than illiberal harmonization. In fact, monetary policy is not just *like* a tax policy; it *is* a tax policy in the sense that the seignorage revenue from monopolistically supplying base money is a tax revenue. Expanding the stock of a base money levies a tax on the holders of the existing stock, as the value of their money balances is diluted. The idea of seignorage as a tax on holdings of base money is of course quite familiar to monetary economists,[1] and the idea is relevant to the discussion of a European central bank.

A major part of the "tax base" for the collection of seignorage is the stock of base-money reserves that banks are required by law to hold against their deposits. Among Western European nations, seignorage is most important as a source of tax revenue (making up 6 to 12 percent of total tax revenue) in Italy, Spain, Greece, and

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The author is Associate Professor of Economics at the University of Georgia.

[1]For an elementary exposition, see McCulloch (1982, chap. 5).

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Portugal, primarily because reserve requirements are highest there (Drazen 1989, pp. 13–14). Greater freedom for trans-European branch banking competition, beginning in 1992, could significantly erode the seignorage tax base in these countries by allowing depositors to switch more easily from the deposits issued by highly taxed domestic banks to the better-yielding deposits issued by lightly taxed foreign banks. The tax authorities would suffer, but depositors would clearly benefit. Ultimately, the integration of capital markets will compel reductions in high reserve requirements in order to maintain the competitiveness of domestic banks (Drazen 1989, p. 15; Grilli 1989, p. 71).

If reserve requirements (and, therefore, the seignorage tax base) are to fall, the rate of monetary expansion (the tax rate) must increase in order to generate the same seignorage. But the rate of monetary expansion in any member of the European Monetary System is constrained, given the commitments to free capital mobility and fixed exchange rates, by the expansion rates of the less expansive members. Inconsistent rates of monetary expansion would create inflation-rate differences that are inconsistent with fixed exchange rates (absent restrictions on capital flows). If the governments with the largest appetites for seignorage are enthusiastic about forming a European central bank, it may be because they anticipate that its rate of monetary expansion—and, hence, their share of its seignorage—will be greater than the seignorage they can extract on their own as members of the EMS, once 1992 arrives.

The hypothesis that at least some European governments are concerned about their seignorage is supported by the observation that when Italy had to disinflate upon joining the EMS, it simultaneously increased its reserve requirements so as to preserve its seignorage (see Drazen 1989, p. 15, citing Giavazzi 1988). The hypothesis is also supported for several countries (France, Ireland, Italy, Germany, and Greece) by evidence of cointegration between times series for seignorage and total government expenditures (Grilli 1989).

Optimal Currency Communities Can Emerge Spontaneously

A single market does not require a single currency, as Salin correctly insists, just as it does not require a single language (or a single system of weights and measures). Still less does a single market require centralized imposition of a particular currency, language, or measurement system. The competitive process can and should be

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allowed to reveal how many and which currencies best serve their users.

But are there not benefits to others when an individual chooses to use a common currency? Yes, there are. His potential trading partners can transact with him at lower cost. Is not collective guidance through political means then needed to ensure that we have a common currency to "internalize" these potential external benefits? No, it is not. An individual who chooses to use a particular currency *shares* the benefits of that choice with his trading partners. The simple fact that trade is two-sided implies that he saves transactions costs just as they do. Consequently, there is no divergence between the privately best and the socially best choice of currency by any individual. "Optimal" currency communities will spontaneously develop as economies of standardization make themselves felt.[2] It is a needless exercise of paternalism to limit individuals' choices among currencies (the same argument applies to languages and measurement systems). Governments should neither hinder, nor accelerate, nor attempt to short-circuit entirely the market convergence process toward a common currency. We need competition as a discovery procedure in the currency market, just as we need it in the computer market (where common standards also emerge). No one knows in advance the size or composition of the optimal currency community or the most preferred monetary policy among members of such a community.

What about the launching of a new currency (or unit of account)? Is not a collective commitment to use a proposed new currency necessary to overcome the very tendency for everyone to use what is currently the most popular currency among his or her trading partners, which makes each individual reluctant to go first in using the new? Is not the decision to switch to a new currency, therefore, a public good, just like the decision to switch from driving on the left to driving on the right? Well, a synchronized switch to a new currency may need to be public, but it is not necessarily a good. It will be a public *bad* if its users find that the new currency is worse than the old, particularly if the inflation rate is higher or more variable. Thus, the character of the proposed arrangements for controlling the supply and purchasing power of the new currency have to be carefully considered. Salin is right when he says that "rather than imposing a limited number of currencies or a unique currency in Europe, it is important to think about the institutional structures that would make 'good' currencies possible." As far as I can see there is no guarantee,

[2]The issue in optimal currency communities is not one of economies of scale in production, contrary to what Salin's terminology suggests.

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and virtually no likelihood, that a European central bank currency produced monopolistically by a cartel of nation-states would prove to be less inflationary than the best of the existing national currencies now competing in Europe.

The switch to a new currency, furthermore, does not need to be synchronized. A superior currency, in principle, can displace an inferior currency gradually, provided that government does not block it. The "dollarization" of high-inflation economies (Mexico, Argentina, Israel) in recent decades, despite legislated obstacles, is a familiar example of this phenomenon. In an earlier era, gold displaced less suitable commodity monies. There are transactors at the margin of any currency community, such as multinational firms, who will choose to switch to a superior currency unit as a transactions and accounting medium when the benefits exceed the costs. Under deregulated and modern conditions, the costs may be low enough that some transactors may switch out of their accustomed currency even for a modest inflation differential. From the marginal users the superior currency can spread to their domestic trading partners, for whom the benefits of switching will have risen.

The establishment of a parallel European currency unit, both allowed and required to compete for its customers, is therefore a defensible idea. No one who distrusted such a currency would be forced to use it. The opposite would be true of a compulsory and monopolistic European central bank currency.

The more competition there is among fiat currencies, as Salin rightly concludes, the more discipline there will be on their issuers and the better the outcome for currency users. But competition will not eliminate discretion for the national monetary authorities, except in the limiting case where demand for each currency is perfectly elastic with respect to the rate of monetary expansion. Constitutional limits on monetary expansion, therefore, would still be useful.

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Currency Competition and European Monetary Performance

Geoffrey E. Wood

The title of Pascal Salin's paper is well chosen, for it directs attention to two key issues in discussion of European Monetary Union. First, is there any necessary connection between EMU and the single market program? Second, should a currency be imposed on Europe or should there be free choice of currency? Salin analyzes these issues with great skill and reaches the following conclusions. The single market program does *not* require the creation of a single currency. Despite that conclusion, there are deficiencies in present European monetary arrangements. The deficiencies are not the result of there being too many moneys, but of these moneys having deficiencies. Finally, Salin argues that these deficiencies are more likely to be remedied by letting currencies compete than by imposing a single currency on the European Economic Community. All of these conclusions seem to me to be correct, but there are some important arguments in their favor that Salin does not deploy and some criticisms of his conclusions that he does not confront. In these comments, I will set out these arguments and consider these criticisms.

Single Market and Single Currency?

As Salin observes, it is frequently claimed that the Single Market Program requires more than the abolition of all government-created barriers to the movement of goods, labor, and capital. It also, it is said, requires "harmonization of production conditions" to ensure "fair competition." As part of this harmonization, the argument runs, we need to create as single currency to ensure common monetary conditions.

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The author is Professor of Economics at the City University Business School in London.

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There is most certainly a case for a free, competitive market within Europe—and, indeed, worldwide. The case can be made in two distinct ways, and both show that gains come in such a situation because production conditions are *different* between firms and locations. Harmonization of production conditions would certainly restrict and could eliminate these gains.

One approach can readily be traced back to Adam Smith. This approach describes the process, characterized by Smith ([1776] 1937) as the workings of an "invisible hand" that guides a market economy, uncoordinated by any central planner, to its best possible allocation of resources. This is essentially the neoclassical general equilibrium analysis of an economy.[1] That analysis demonstrates that residents in an economy can gain by two types of trade. First, they trade goods and services so that what they consume is better aligned with their tastes than was the set of goods they started with. Second, they gain by getting more goods than they initially had as *differences* in production conditions are exploited. These differences are exploited by factors of production moving to take advantage of the fact that different production conditions across industries mean that industries make the best use of *different* combinations of factors. These output gains accrue because of diversity of production conditions; and if production conditions were "harmonized," the gains would be lost. This neoclassical approach shows that difference, not harmonization, is the source of gain.[2]

The second line of argument has become known as the Austrian approach to the analysis of a competitive economy. It sees competition as leading not to a stable, efficient equilibrium but rather as a continuous *process*, where firms with different techniques, knowledge, and views of the future continually compete against one another. This creates what Schumpeter (1956, p. 84) called a "perennial gale of creative destruction"—a gale that brings to consumers new goods, better goods, and cheaper goods. Note the one point in common with the neoclassical analysis; gains come because of differences in production conditions. Neither approach can justify the harmonization of production conditions and the imposition of a common currency as part of that process of harmonization.[3]

[1]A lucid exposition of this analysis can be found in Bator (1957).

[2]Samuelson (1949) showed that if two economies are identical in every respect except that in one relative factor intensities differ across industries while in the other they do not, then the former can produce more of every good than can the latter. The differentiated economy's production possibility frontier is everywhere outside that of the undifferentiated economy.

[3]Another argument for a common currency is considered below. See note 6.

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Criticisms of the EMS

In essence, the EMS is a system of the same type as Bretton Woods, the monetary arrangement of the West from 1946 to about 1970. It suffers, therefore, from the same defects as that system did. Three of those defects are particularly noteworthy. First, exchange rates are politicized: Deciding whether or not to change a rate is political. This introduces an additional form of uncertainty, and one against which it is hard for participants in the foreign exchange markets to protect themselves. It is a different kind of system from either free-floating or rigidly fixed rates; it is *not* a halfway house. Second, claims that EMS membership has either reduced inflation or reduced the output costs of doing so are not based on strong evidence. Third, the system has *not* delivered reasonably stable prices (defined as inflation as measured by the CPI running at 2 percent per annum or below, a rate consistent with price stability because these indices generally make inadequate allowance for quality change. Indeed, over the past two years, inflation has started to drift up again in the principal ERM countries. What monetary system can do better? Here we come to Salin's third main point.

Currency Competition

Salin argues that currency competition, rather than the imposition of a common money, will improve monetary performance in Europe. At this point, it is important to eliminate a possible misunderstanding. By currency competition, Salin does not mean several currencies circulating together. It is better described as monetary policy competition, a situation where individuals can hold assets, including bank deposits and cash, denominated in any currency they wish and anywhere they wish. In such circumstances, monetary authorities would have the incentive to deliver the kind of monetary performance people want, and individuals dissatisfied with or fearful of one authority's performance could switch to the currency of another. Monetary authorities would be constrained by potential competition.[4]

Salin advances two reasons for relying on such competition. First, we have no way of knowing the optimum domain of a currency; we

[4]Samuel Brittain has raised a most interesting question touching on this point. British residents have been free in the way described here since 1979. What, he asked, have been the beneficial effects? Surely the answer is that the authorities have acted much more rapidly to correct their mistakes. Monetary policy was tightened substantially by the end of 1989 in response to the policy failures of 1987 and 1988, when inflation had reached less than one-third the rate it attained under the last, pre-exchange control abolition, conservative administration.

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can find it only by relying on the market process of discovery. Second, competing monetary policies give monetary authorities the incentive, which they otherwise lack, to deliver stable money.[5] Incentive is recognized as important in every other aspect of life. Why neglect it in this one? And, of course, the incentive need not be purely financial; prestige may also be important.

These arguments are both clear and persuasive. Nevertheless, there have recently been criticisms of them. Because Salin does not consider these criticisms, I will discuss them here.[6]

Criticisms of Competing Monetary Policies

Guido Carli (1990), Italy's treasury minister, recently observed that holding exchange rates fixed required coordination, not competition, among monetary policies. Carli used the word "coordination" in a peculiar way, but he is nevertheless correct. If exchange rates are to be held fixed between countries, then every country but one must subordinate its monetary policy to that of the leading country. ("Subordination" is a more accurate term than "coordination," although it is certainly understandable that Carli, a treasury minister whose country is not the policy leader, chose to use "coordination.") Without such "coordination," the set of fixed rates would not hold, as inflation rates would diverge and drive exchange rates apart.

But Carli's criticism is beside the point, for competition explicitly requires either floating or very wide bands. Only then could the benefits of a well-conducted monetary policy show up in better monetary performance; otherwise, it would be dissipated across the region or offset by the failures of others. Carli is correct in what he says, but what he says is not relevant for a regime of competing currencies.

[5]Basic price theory helps reinforce this point. If there is a monopoly issuer of a currency, he can increase his revenue (to a certain point) by inflating. For the classic discussion of how inflation provides revenue for a monopoly supplier of money, see Bailey (1956). If there is monetary competition, however, profits can be increased only by gaining market share—by shifting the demand curve for the money to the right. This can be done only by supplying the kind of money people want.

[6]Some may object that monetary policy competition would not lead to a single European currency, a desirable goal since a single money would economize on transactions costs. Both points are probably correct. But note first that if we did have a single money, the beneficial effects of competition would be absent, for what would constrain the supplier of that money to a satisfactory performance? Second, if we did discover a way of constraining such a monopolist, it would be easier to move to a single money if every country had a low and stable inflation rate. Hence, competing currencies make a single money more attainable, although not necessarily desirable.

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It is useful next to turn to Allsop and Chrystal (1989). Their comments are much more interesting. They argue first that if competition drives out one currency, then the process of driving out that currency will involve hyperinflation. The currency's value will collapse as people flee from it with haste. That *may* happen. But if we look at the competitive process in markets for goods, we rarely observe a firm's market share collapsing in response to a small difference in quality or price. Rather, market shares erode gradually; then firms seek to respond, improve products or cut price, and win back their position or at least put an end to its further erosion. Why should not the same be true, in general, for currencies? Surely Allsop and Chrystal's point is a warning, not against allowing competing currencies in Europe, but against allowing competition between currencies when one is already substantially inferior to another in its stability.

Allsop and Chrystal address their second criticism to an aspect of the competing currencies proposal advanced by the British government (H. M. Treasury 1989). That proposal contained the suggestion that every EC currency should be legal tender in every EC country. Allsop and Chrystal are scornful. Would shopkeepers have to maintain a till for every currency, they ask? In expressing this scorn, however, they miss a more substantial point.

By making all currencies legal tender, governments would have passed a law mandating that all currencies are perfect substitutes, one for another, in settlement of debt. Such a law would imply that the price of any currency relative to any other was fixed; that is, it would imply fixed exchange rates. Hence, making the currencies legal tender seems to rule out currency competition. In this respect, the British government's proposal is internally inconsistent. A better approach to the question of legal tender is, as Salin suggests, to abolish legal tender laws and simply make contracts enforceable in whatever currency the parties had originally agreed.

Banking Stability

We sometimes hear the fear expressed that the banking system would be less stable in a world of competing currencies, on the grounds that it would not be clear which central bank had responsibility for which commercial banks if these banks were doing business in several currencies. This concern reveals a fundamental confusion. Central banks need not—should not—be responsible for commercial banks. A central bank's duty to maintain stability concerns the money stock, *not* an individual bank. In a time of panic, it does not lend to a bank and does not engage in bailouts. It lends *to the market*. That

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is, a central bank lends on security to whoever brings in the security. Doing so prevents monetary collapse following a banking panic, and that is the purpose of lender-of-last-resort action (see Gilbert and Wood 1986).

If central banks behaved in this manner, then commercial banks doing business in a currency would ensure that they had assets, denominated in that currency, that could be rediscounted at the relevant central bank. If they did not, they might fail; but the system is protected as long as the central banks act as lender of last resort. The central bank's lender-of-last-resort role, therefore, does not conflict in any way with currency competition.

What about supervision and regulation? There is little evidence that these activities benefit consumers or enhance the stability of the banking system (see Benston 1990). But aside from that, if central banks decided to regulate, they could regulate those banks with headquarters in their country. Central banks could then offer different degrees of regulation, allowing both suppliers and consumers of banking services to choose the regulatory framework they wished and thereby increasing welfare by expanding choice. The outcome could be little regulation, much regulation, or somewhere in between, or some countries would offer one type of regime and others another. In any event, it would reflect consumer choice and thus increase welfare as compared to the present situation. Hence, just as the lender-of-last-resort role causes no problems for competing currencies, neither does the much less-important task of supervision and regulation.

Conclusion

In his fascinating paper, Salin made three main points: (1) We do not need a common currency as part of the EEC's single-market program; (2) the present problems of the EMS result from the nature, not the number, of its member currencies; and (3) currency competition would improve monetary performance in Europe. All of these points are correct. My only criticism of Salin's paper is that there are some arguments in favor of his conclusions that he has not deployed, and that is not a criticism I would press strongly.

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Public Choice Aspects of European Monetary Unification

Michele Fratianni and Juergen von Hagen

Since the 1960s, the European Community (EC) has spent considerable energy and political capital on the issue of monetary union.[1] In early 1989, the Delors Committee, consisting of EC central bank representatives and chaired by Commission President Jacques Delors, took a further step on the long road to a European monetary union (MU). Its report (Commission 1989) was formally approved as a blueprint for the creation of an MU by the Council of Ministers at the June 1989 summit in Madrid. We will assess some of the main issues involved in designing a strategy for MU and discuss the features of the Delors Report as a proposal for achieving this goal. There will be no discussion of whether or not the EC represents an optimal currency area, nor will we discuss the benefits and costs of a monetary union.[2] Our primary focus will be on the public choice aspects of monetary union.

The Delors Report: A Strategy for Monetary Union

The Delors Report consists of three main components: one dealing with economic union (EU), another dealing with the construction of an MU, and a third dealing with fiscal policy in an MU. We focus on three critical aspects of the report: the principle of parallelism, the choice of the European Monetary System (EMS) as the basis for an MU, and the recommendation for binding fiscal restraints on national governments.

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Michele Fratianni is Professor and Juergen von Hagen is Associate Professor of Business Economics and Public Policy at Indiana University. The authors thank Paul de Grauwe and Roland Vaubel for comments on an earlier draft of the paper.

[1]For a historical review, see Fratianni and von Hagen (forthcoming).

[2]On this topic, see Christie and Fratianni (1978) and Canzoneri and Rogers (1990).

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The Principle of Parallelism

An important claim in the report is that monetary unification and economic integration cannot fruitfully proceed independently of each other,[3] an axiom the report calls the principle of "parallelism" (Para. 42): The reason for parallelism, however, remains vague. On the one hand, the report argues that "achieving monetary union is only conceivable if a high degree of economic convergence is attained" (Para. 21), a proposition that no economist would deny. On the other hand, the report fails to establish why MU would be a necessary condition for EU:

> The creation of a single currency area would add to the potential benefits of an enlarged economic area because it would remove intra-Community exchange rate uncertainties and reduce transactions cost. . . . At the same time, however, exchange rate adjustments would no longer be available as an instrument to correct economic imbalances within the Community. . . .
>
> With parities irrevocably fixed, foreign exchange markets would cease to be a source of pressure for national policy corrections when national economic disequilibria developed and persisted. . . . Measures to strengthen the mobility of factors of production and the flexibility of prices would help to deal with such imbalances [Para. 26].

The role of MU for EU is thus ambivalent: MU may add or subtract from the benefits due to EU. As Goodhart (1989) observed, the loss of a degree of freedom in adjustment would actually suggest maintaining exchange rate flexibility during the creation of EU. Insisting on parallelism instead, the report contends that "Community policies in the regional and structural field would be necessary in order to promote an optimum allocation of resources and to spread welfare gains throughout the Community" (Para. 29).

The additional constraint of imposing MU in the transition period raises the need for market intervention at the Community level and thus works against the spirit of deregulation imbedded in the "Europe 1992" program. Parallelism, as the guiding principle to construct MU, creates a predisposition for bureaucratic intervention and centralized Community decisionmaking. The only justification for this choice can be found in Jenkin's (1978) speech—or, as stated in the Delors Report, to avoid "loss of political support for developing the Community further into economic and monetary union" (Para. 42).

[3]"Economic union and monetary union form *two integral parts of a single whole* and would therefore have to be implemented in parallel" (Para. 21).

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The EMS as the Basis for Monetary Union

The strategy of the Delors Report is to use the present EMS as the basis for constructing a European monetary union. The report defines a monetary union as a

> currency area in which policies are managed jointly. . . . The single most important condition for a monetary union would, however, be fulfilled only when the decisive step was taken to lock exchange rates irrevocably [Para. 22].
>
> The adoption of a *single currency* . . . might be seen . . . as a natural and desirable further development of the monetary union. . . . The replacement of national currencies by a single currency should therefore take place as soon as possible after the locking of parities [Para. 23].
>
> A new monetary institution would be needed because a single monetary policy cannot result from independent decisions and actions by different central banks. . . . [This institution] should be organized in a federal form, in what might be called a *European System of Central Banks* (ESCB). . . . The System would be committed to the objective of price stability . . . [and] should be independent of instructions from national governments and Community authorities [Para. 32].

The achievement of MU would occur in three stages:

> Stage one represents the *initiation of the process* of creating an economic and monetary union [Para. 50] . . . [that] would center on the completion of the internal market . . . [and] would strengthen economic and fiscal policy coordination [Para. 51].
>
> [The MU] would include all Community currencies in the EMS . . . [but] realignments of exchange rates would still be possible [Para. 52].
>
> The *second stage* could begin only when the new Treaty had come into force [Para. 55]. . . . While the ultimate responsibility for monetary policy decisions would remain with national authorities, . . . a certain amount of exchange reserves would be pooled . . . [and] regulatory functions would be exercised by the ESCB in the monetary and banking field in order to achieve a minimum harmonization of provisions (such as reserve requirements or payment arrangements) necessary for the future conduct of a common monetary policy [Para. 57].
>
> The *final stage* would commence with the move to irrevocably locked exchange rates [Para. 58] . . . [and] with the ESCB assuming all its responsibilities as foreseen in the Treaty [Para. 60].
>
> The Council of Ministers . . . would have the authority . . . to impose constraints on national budgets . . . to make discretionary changes in Community resources . . . and to apply . . . structural policies . . . [Para. 59].

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Alternative Strategies to Achieve Economic and Monetary Union

For a better understanding of the dynamic processes of economic and monetary union (EMU), we have compared the Delors strategy (scenario C in Table 1) with two hypothetical alternatives (scenarios A and B). The three scenarios share the same ultimate objective, economic and monetary union, and the same starting point, full integration of the markets for goods and services; but they differ in the way the process leads to the ultimate goal. Scenarios A and B complete EU first. At this stage, the EC would consist of fully integrated financial and goods markets, the notion of "Europe 1992." National

TABLE 1

ALTERNATIVE SCENARIOS FOR EU AND MU

	EU		MU			COMMENTS
	Goods and Services	Capital	EMS	ESCB	FR	
	Y					Integrated goods markets
A1	Y	Y				Integrated goods and financial markets (Europe 1992)
A2	Y	Y		Y		Centralized policy coordination with flexible exchange rates
A3	Y	Y		Y	Y	EMU
B1	Y	Y				Europe 1992
B2	Y	Y			Y	Decentralized but coordinated policies (e.g., gold standard)
B3	Y	Y		Y	Y	EMU
						Delors
C1	Y		Y			Stage 1
C2	Y		Y	Y		Stage 2
C3	Y	Y		Y	Y	Stage 3

NOTE: EU = economic union, including financial integration; MU = monetary union; EMS = enlarged European Monetary System; ESCB = European System of Central Banks; FR = irrevocably fixed exchange rates.

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monetary policies are autonomous and exchange rates are flexible, resulting in a consistent institutional environment. A and B take different routes from there. Step A2 adds a European System of Central Banks (ESCB), which would coordinate monetary policies in member countries. This coordination would occur with flexible exchange rates, giving the member economies an additional degree of freedom to adjust to regional shocks and to converge to a common monetary policy. The flexibilty of exchange rates does not imply that coordination is necessarily "loose." Coordination can consist of common policy rules, such as monetary targeting. Finally, step A3 fixes all EC exchange rates, clearing the way for MU.

Scenario B rests on a system of decentralized policy coordination with fixed exchange rates, yet independent national monetary authorities (compare with B2). This is similar to the gold standard, although no metallic or commodity money is necessary to implement this step. Policymaking is decentralized, but each monetary authority must ensure the fixity of the exchange rate. Step B3 then adds the ESCB as the central policy authority, which again ushers in MU. Compared to scenario A, scenario B has the advantage that decentralized coordination is both easier to implement and easier to monitor.[4] On the other hand, B imposes a tighter constraint on the conformity of monetary policies at an earlier stage than A does.

In the Delors scenario C, the road to monetary union starts from an enlarged EMS, including all EC members in the exchange rate mechanism (ERM). The latter is only a weak form of policy coordination, because it explicitly allows for discrete realignments of exchange rates. As long as realignments are possible and practiced, the EMS is exposed to speculative attacks when markets perceive strong and lasting inconsistencies between the existing parities and national monetary policies. The system survives by accepting periodic realignments and by imposing capital and exchange controls to safeguard parities. Indeed, despite the common perception that capital and exchange controls are being fully dismantled in the EC, the relevant directives allow for the reimposition of controls if short-run capital movements cause significant strain in foreign exchange markets and disturb the execution of monetary policy in a member country (Bofinger 1989, p. 433; Key 1989, p. 20). The return to restrictions, therefore, remains an explicit possibility in the EMS, so that C1 does not complete EU (as shown in Table 1). Instead, EU and MU are both reached only in the final stage of the Delors strategy.

[4]For a discussion of the monitoring problem in international coordination, see Fratianni and von Hagen (1990a).

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Making the EMS the basis of MU thus leads one to accept the strategic principle of parallelism; scenarios A and B demonstrate that EU may well be achieved before MU. It seems odd that the Delors Report regards economic and monetary integration as two aspects of the same process and repeatedly argues that the construction of MU requires a high degree of economic integration already achieved, yet its preferred strategy actually prevents the early completion of EU. In this respect, the report is inconsistent.

The nonvanishing probability that countries can resort to exchange and capital controls means that real interest rates under the Delors strategy will embed a compensation for this risk, driving a wedge between relative marginal productivities of capital and relative real rates of return. The EMS as a road to monetary union, therefore, creates an inefficiency that is resolved only in the final step. This inefficiency generates an additional by-product that is not shared by the other alternatives. By forcing MU and EU at the final stage, the Delors strategy increases the cost of and therefore discourages valuable learning about the way markets and institutions behave in the new environment.

The ESCB is added to the EMS in stage 2 (C2 of Table 1), but its functions and role remain vague. Monetary policymaking still rests with the national authorities at this stage. The Delors strategy provides for a coexistence of central and decentralized decisionmaking, which is bound to create conflicts between the institutions. Because there are no rules or institutions to resolve such conflict, there will be more room for political discretion in the conduct of monetary policy. The result is not only additional uncertainty about monetary policy, but also a predisposition for decisionmaking processes and outcomes that reflect political opportunism rather than economic rationale. In contrast, institutional conflict does not arise in the alternative scenarios, because the Community authority replaces national monetary authorities rather than coexisting with them.

The report views the ESCB in stage 2 as a "training process leading to collective policymaking" (Para. 55). Bofinger (1989) argues that such training is unlikely to be successful, because the ESCB will find it difficult to attract qualified people who are willing to invest in an institution of little importance and reputation. The Council of Economic Advisors to the German Ministry of Economics (1989a) warns that a weak institution like the ESCB of stage 2 would specialize in activities like coalition building, logrolling, and infighting that would prevent the creation of a politically independent Community monetary authority.

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Finally, scenarios A and B are evolutionary paths to monetary union. Only one additional feature at a time is added to the institutional architecture of the EC. In contrast, the transition from step C2 to C3 implies the simultaneous abolition of capital controls, the elimination of the EMS, the imposition of irrevocably fixed exchange rates, and the hardening of the ESCB. It leaves no room for the authorities to gain experience with the environment of a fully integrated financial market and with the process of truly coordinating monetary policies. The disruptiveness of the Delors strategy unnecessarily adds to the uncertainty involved in the process of building MU.

The obvious question is whether there is a nondisruptive way to achieve MU by starting from the EMS? There are two feasible alternatives. The first is to harden the ERM and later to create an ESCB; that is the path described by stages C1, B2, and B3 of Table 1. Elsewhere, we have argued that such a strategy would improve the credibility of monetary policy and lock in the gains achieved so far against inflation in the EC (von Hagen and Fratianni 1990). The other possibility is to soften the ERM but to rely on a centralized institution like the ESCB for coordinating national monetary policies; that is the path described by C1, A2, and A3. As we have noted, path C1, B2, and B3 might have an advantage over path C1, A2, and A3 in that it is easier to monitor and to implement.

Fiscal Policy Implications

The Delors Committee has spent considerable time discussing the fiscal policy implications and requirements of EU and MU. The report notes that national differences in fiscal policies can have undesirable allocative effects in an EU. Completion of EU requires "a high degree of compatibility of economic policies" (Para. 16) and avoids "imbalances in the real and financial sectors of the Community" as a result of "divergent and uncoordinated national budgetary policies" (Para. 30).[5] However, according to the report (Para. 30):

> The fact that the centrally managed Community budget is likely to remain a very small part of total public-sector spending and that much of this budget will not be available for cyclical adjustments will mean that the task of setting a Community-wide fiscal policy stance will have to be performed through the coordination of national budgetary policies.

[5]For a theoretical discussion of the need to harmonize fiscal policies in an economic and monetary union, see Tanzi and Ter-Minassian (1987), Vegh and Guidotti (1989), and Casella and Feinstein (1989).

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The report holds that a centralized fiscal policy with budgetary power similar to those in existing federal states, such as the United States, Canada, or West Germany, is politically unrealistic. As Lamfalussy (1989, p. 95) observes, the EC budget is likely to remain small and provide an inadequate "*masse de manoeuvre* for an effective macro-fiscal policy." As a substitute for centralization, the report calls repeatedly for coordination of national macroeconomic policies in order to achieve the necessary degree of consistency.

The more controversial aspect of this discussion is the report's strong and repeated call for binding rules on the size of national government budget deficits in the future MU. The report speaks of "effective upper limits on budget deficits of individual member countries" and "the definition of the overall stance of fiscal policy over the medium term including the size and financing of the aggregate budgetary balance" (Para. 33). Such rules are regarded as one of the "basic elements" of an "EU in conjunction with a monetary union" (Para. 25).

The Role of Fiscal Restraints in Monetary Union

Despite the emphasis on binding fiscal restraints, the Delors Report does not make a convincing case for such restraints. Goodhart (1989) remarks that the Committee probably saw this need as so self-evident that it did not deem it worthwhile to give a firm justification. The Committee's reasoning focuses on a moral hazard problem in a monetary and economic union that reduces the fiscal discipline of its members. Individual members may be tempted to raise government debt beyond levels considered sustainable outside the union because they expect the common monetary authority to come to their rescue in a financial crisis. Such rescue operations would tax citizens of other member countries either explicitly or through a higher inflation rate in the monetary union (Lamfalussy 1989). Fiscal restraints, such as balanced budget provisions or ceilings on deficits, are required to guarantee the soundness of fiscal policies in the union.

There is a basic flaw in this argument. The moral hazard problem is a consequence not of the exchange rate regime but of closer international coordination and integration. Recent experience with the debt of LDC and Eastern European countries is clear evidence of this point. Industrial countries have agreed to reschedule and forgive debt, irrespective of the exchange rate arrangement linking debtor and creditor nations. Solidarity, not fixed exchange rates, is the source of bailouts. Certainly, economic integration and monetary union will raise the degree of solidarity among the members, but it is misleading to attribute the moral hazard problem to the monetary union.

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Furthermore, there are forces at work in a monetary union that enhance fiscal discipline and work against the negative incentive effect. Considerations of reputation suggest that excessive debt is incurred by governments that have direct access to the monetary printing press. Joining an MU with an independent monetary authority eliminates such access and allows deficits and debt levels to decline (Goodhart 1989). The ensured independence of the common monetary authority can be regarded as an institutional substitute for fiscal restraints. There is no need for fiscal restraints in an MU, if monetizing individual member countries' debt by the common central bank is firmly excluded. From that perspective, the Committee's call for fiscal restraints suggests that it regards the full political independence of the future European central bank as a lost cause.

Yet, even if we assume that solidarity and reputational effects together work toward raising public deficits and debt, an additional condition must be satisfied before binding rules can be justified; namely, capital markets in the Community do not price individual country risk differentials adequately enough to offset the incentive for higher deficits by larger risk premia. The Delors Report (Para. 30) takes this position:

> To some extent market forces can exert a disciplinary influence. . . [but] market perceptions do not necessarily provide strong and compelling signals and that access to a large capital market may for some time even facilitate the financing of economic imbalances. . . . The constraints imposed by market forces might either be too slow and weak or too sudden and disruptive.

Therefore, governments must rectify a market failure with an administrative rule. Again, the market failure argument does not pertain to monetary integration. A monetary union—in which international interest rate differentials are not clouded by exchange rate expectations—would raise the visibility of risk premia embedded in interest rate differentials and, thus, would enhance the efficiency of market forces (Council of Economic Advisors to the German Ministry of Economics 1989b).

There is no reason to assume a priori, however, that fiscal restraints imposed by the Community would be more effective than market forces. Public choice considerations suggest that national policymakers would find ways to circumvent such rules, if doing so serves their own political interests. At the same time, the rules and enforcement mechanisms designed by the Community would emerge from a political process at the Community level that would not necessarily reflect the best economic rationale. Historically, the Community's

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performance in enforcing common rules has been rather weak (Mortensen 1990, p. 54).

Fiscal Restraints in the United States

Formal fiscal restraints exist in the United States in the form of statutory or constitutional balanced budget requirements and limitations to state debt. Forty-nine states have some form of balanced budget requirements (BBRs), ranging from the simple provision that the governor must submit a balanced budget (12 states) to the explicit ban on carrying over a deficit into the next fiscal year (29 states). Thirty-two states have state debt limits in the form of nominal limits, percentage limits relating to state funds, tax revenues, taxable or state property, or total appropriations; 38 states have debt limits of this kind or special legislative restrictions, such as a referendum requirement to create debt.

A recent study by the Advisory Commission on Intergovernmental Relations (ACIR 1987b) provides an index of the stringency of the legal constraints implied by the BBRs. The index ranges from 0 (no requirement) to 10, with a distribution that is heavily skewed toward the higher values: 36 of the 50 states have a ranking of 9 and 10. The index has a weak negative correlation with state debt per capita levels and debt income ratios but no apparent correlation with debt growth. Higher fiscal stringency seems to give incentives to states to change their debt mix in toward more nonguaranteed debt, a way to circumvent fiscal restraints.[6]

For a more formal assessment, we have divided the states into groups of low (index value 0 to 4), medium (5 to 8), and high (9 and 10) degrees of fiscal stringency. Table 2 shows the average of the four indicators of fiscal performance for these groups. States with high stringency have a significantly lower average state debt per capita than states with low stringency. The only other significant difference is how debt is allocated between fully guaranteed and nonguaranteed debt. Here the evidence is clear: Debt limits do make a statistical difference in the choice of debt mix.

The risk of a central bank bailing out an insolvent Treasury depends even more on the probability of particularly deviant fiscal behavior than on average fiscal performance. To see how fiscal restraints change this probability, we have isolated the three largest observations for each of the four indicators. The three states with

[6]By setting up special authorities to manage state projects and by creating nonguaranteed debt in their name instead of guaranteed, "full faith and credit" debt, states can avoid fiscal restraints.

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TABLE 2

U.S. FISCAL RESTRAINTS AND FISCAL PERFORMANCE IN 1985

		Debt Limits I		Debt Limits II		BBR Stringency Index		
		Yes	No	Yes	No	Low	Medium	High
Debt per Capita	Average	1203.5	1290.1	910.7	2267.7	1576.6**	1723.5	919.2
	Std. Dev.	1904.0	775.0	654.8	2813.3	406.7	2714.8	752.8
Debt/Income Ratio (%)	Average	9.4	9.3	7.5	15.1	11.1	11.9	7.7
	Std. Dev.	11.5	5.8	5.2	16.6	4.4	16.0	5.7
Debt Growth (%)	Average	4.5	2.9	4.2	2.9	4.1	2.7	4.5
	Std. Dev.	4.2	3.0	4.2	2.1	4.1	2.1	4.4
Debt Mix (%)	Average	3.5*	2.6	3.5**	2.5	1.9**	2.0**	4.0
	Std. Dev.	2.3	1.5	1.9	0.8	0.2	1.2	2.6

NOTE: Debt Limits I are nominal debt limits and percentage limits relating to state funds, taxable property, tax revenues, or total appropriations. Debt Limits II add to Debt Limits I special legislative requirements. Std. Dev. denotes group standard deviation; * and ** denote statistical significance of a t-test for equal means at 5 percent and 1 percent, respectively.
SOURCE: von Hagen (1991).

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the fastest debt growth and the largest ratios of nonguaranteed to guaranteed debt fall into the group with the highest stringency index and with formal debt limits. Two of the three states—those with the largest per capita debt and debt income ratios—also belong to the group with the highest fiscal stringency and formal debt limits.[7]

The lesson we draw from this simple empirical exercise is that fiscal restraints do little to change average fiscal performance and do not significantly lower the probability of extreme outcomes. This broad conclusion is in line with the more detailed evidence provided in other studies.[8] Even though the United States differs structurally and institutionally from the EC, this evidence casts doubt on the promise that formal fiscal restraints can enhance fiscal discipline in a European monetary union and reduce the monetary authority's risk of acting as a lender of last resort. In conclusion, there are neither theoretical nor practical reasons to believe that binding rules can rectify alleged market failures in restraining the growth of government debt.

A Public Choice Interpretation of the Delors Report

We have pointed out that the Delors Committee's approach to MU has a number of strategic deficiencies. First, parallelism introduces a bias for centralized market regulation. Second, the choice of the EMS as the basis for MU increases the cost of learning and biases the process toward premature completion, while discouraging the formation of an independent monetary authority for the monetary union. Finally, the call for binding fiscal restraints is largely unjustified. In light of these conclusions, the question arises: What is the motivation underlying the Delors Committee's proposal. Public choice theory leads to a club interpretation, with central bankers pursuing their own interests.

We start by sketching how EU will change the environment for fiscal policymaking in the Community. Assume that the "Europe 1992" program is successful in the two important dimensions of goods market and financial integration. Stronger goods market integration will increase intra-EC trade and raise the share of exports and imports in each country's GNP. Financial market integration, independent of the type of exchange rate regime, will increase the international substitutability of financial assets within the region,

[7]For more details, see von Hagen (1991).

[8]See ACIR (1987b), von Hagen, Heins (1963), and Abrams and Dougan (1986). ACIR (1987b) presents a regression analysis of the impact of BBR stringency on state deficit spending and finds only a weak negative effect.

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particularly at the shorter end of the markets. Thus, each economy in the region becomes more "open" and more closely integrated in the regional capital markets.

The important implication of these two trends for EU is that national fiscal policies are likely to lose much of their power to control national output and employment, even in the short run. First, as the literature on fiscal federalism remarks, greater openness reduces the traditional Keynesian spending multipliers as a larger percentage of the induced demand spills over to the rest of the Community. Second, standard open-economy macroeconomics, typified in the Mundell-Fleming model, predicts that with rigid prices, flexible exchange rates, and perfectly integrated capital markets, fiscal policy becomes ineffective in a small country. This happens because the momentarily higher domestic rate of interest following a fiscal expansion induces capital inflows, an appreciation of the domestic currency, and a complete crowding out of net exports. In contrast, fiscal policy remains effective under fixed exchange rates, because its domestic interest rate effect creates a pressure for appreciation of the home currency and forces the monetary authority to expand the money supply. Only if the country is large enough to affect permanently domestic and world interest rates will the bond-financed increase in government spending succeed in raising domestic output under flexible rates (see, for example, Frenkel and Razin 1987).

Progress toward EU, therefore, implies a power reduction of national fiscal policymakers. Public choice theory alerts us to expect fiscal policymakers to seek ways to restore their leverage. Given the completion of EU, there are two ways for them to do so. First, coordination of fiscal policies among EC members offers a way to overcome the relative size problem and to gain market power in international capital markets. Although each country would seem to be relatively small, the combined size of their financial markets can be expected to be large enough for a coordinated fiscal expansion to raise world interest rates. Second, by fixing exchange rates among the community countries, fiscal policymakers can exert power over the instrument that remains effective even with EU, namely, monetary policy. The process of goods market and financial integration, therefore, sets in motion two tendencies among finance ministries: a move toward coordination and a predisposition for fixed exchange rates. It is noteworthy that in the larger Community countries the legal power to choose exchange rate regimes rests with the ministries of Finance, not the central banks.

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To the EC central bankers these tendencies must appear to be a serious threat to their own political power and independence. According to standard macroeconomic analysis, the imposition of truly fixed exchange rates will degrade national monetary policy and give it a minor role.[9] Furthermore, fiscal policy coordination will reduce the relative power that monetary policy has over fiscal policy. Our interpretation rests on the assumption that central bankers take these developments of fiscal policy as given. In designing the future EC monetary regime, therefore, these central bankers have a strong incentive to select strategies that diminish the perceived danger of fiscal dominance.

To interpret the strategy proposed in the Delors Report as a rational response of EC central bankers to this threat requires us to show how the Delors strategy, if adopted, would reduce such a threat. We focus on two elements. The first is the report's insistence on building MU on the foundations of the EMS. The critical characteristic of the EMS for the development of the club theory is that monetary policymaking rests at the national level. Far from being a true fixed exchange rate arrangement, the exchange rate mechanism explicitly allows for realignments and requires only a small degree of policy coordination. The report is very clear in this respect. During stage 1 it proposes to extend "the scope of central bank autonomy" (Para. 52)—that is, to strengthen the position of monetary policymakers vis-à-vis their governments—and to include all Community currencies in the ERM—that is, to enlarge the club. The primary common policy institution at this stage, the Committee of Central Bank Governors, would be charged only to formulate and express opinions and write an annual report (Para. 52). Similarly, during stage 2, the "ultimate responsibility for policy decisions would remain . . . with the national authorities" (Para. 55). The final transfer of policy authority to the ESCB would occur in the final stage. In essence, the creation of the ESCB within the existing EMS raises the probability that the national monetary authorities will see their interests represented in the ESCB while lowering the probability of building a truly supranational and independent ESCB.

The weak coordination implied by the EMS need not exclude closer coordination taking place for a prolonged period of time, should this serve the interests of the central bankers. The experience

[9]We emphasize that our interpretation is built on the assumption that central bankers predominantly reason along the lines of the Mundell-Fleming framework of analysis. The fact that the latter represents the intellectual core of most empirical models studying questions of national policy and international policy coordination gives empirical concreteness to our assumption.

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since the 1987 realignment has made this quite clear. Such coordination, however, is less evidence of a "new EMS" (Giavazzi and Spaventa 1990) than of the simple fact that the adoption of similar policies may occur even without much formal coordination. We conclude that the Delors strategy, while suggesting that the way to MU is best achieved through a gradual strengthening of the EMS, serves to minimize the loss of policy authority for the central banks during this process.

The second critical element for the development of the club theory concerns the call for binding fiscal rules in an MU. These rules are designed to guarantee independence to the ESCB in the final stage of MU through "exclusion of access to direct central bank credit and other forms of monetary financing" and to limit the scope of independence of national fiscal policy (Para. 33). The former has an obvious justification in a monetary union committed to price stability (Para. 32), but there is no evidence that quantitative limits on national budget deficits can ensure fiscal discipline.

Club theory can shed some light on this issue. Referring to the authority of regional and national policymakers in macroeconomic management, the report states (Para. 19) that

> given their potential impact on the overall domestic and external situation of the Community and their implications for the conduct of a common monetary policy, such decisions would have to be placed within an agreed macroeconomic framework and be subject to binding procedures and rules.

To put it more plainly, the mere fact that fiscal policies interfere with monetary policymaking is sufficient to justify restricting the scope of governments' independent decisionmaking. Obviously, the Delors Committee understands the enhanced power of fiscal policy on aggregate demand when monetary policy is forced to hold exchange rates constant. The Committee does not favor fiscal coordination over uncoordinated fiscal policies but takes as "given" the tendency for coordinated policies on which it wants to place restraints to safeguard the leverage of monetary policy. Binding rules are called for to limit the discretionary actions of the fiscal authorities. As a result, the balance of decisionmaking power in the future MU would shift toward central bankers.

In sum, we interpret the Delors Report as a rational response of the EMS central bank club to curb the threat of fiscal dominance. From this perspective, it is easy to make sense of the peculiarities of the report's strategy for MU. The inefficiencies and biases of the strategy are the price to be paid for maintaining monetary policymaking at the national level as long as possible. The result is likely to be

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an ESCB consisting of a collection of national interests instead of a true Community institution standing above special interests.

Central Bank Club Inflation Performance

Having argued that the Delors Report reflects the preoccupations and the interests of the central bank club, we can derive some general propositions concerning the "output"—that is, the base money creation—of this club. The main question is: Will the club have an inflation or deflation bias?

Recent literature on optimal taxation views inflation as part of a nation's tax system. Contrary to the conventional view of inflation as an inefficient source of government revenue, this literature argues that, in a world with transaction and distortionary costs of collecting taxes, inflation becomes part of a second-best tax structure (Klein 1978, p. 81). Its optimal rate is obtained at the point where the marginal social costs of raising revenues through inflation and through other distortionary taxes are equal to each other (Mankiw 1987, Gros 1990). To illustrate, let t_y be the distortionary tax rate on income, m_y the ratio of base money to income, b_y the ratio of debt to income, π the inflation rate, and z and v the weights of the tax and inflation distortions in the authorities' welfare function. The optimal inflation tax obeys (see Gros 1990)[10]

$$zt_y(m_y + b_y) = v\pi. \tag{1}$$

Taking the ratio of government expenditures to income g^* as given for the financing decision, the optimal steady-state inflation rate is

$$\pi = (g^* + \rho b_y)\left(m_y + \frac{v}{z(m_y + b_y)}\right)^{-1}, \tag{2}$$

where ρ is the real interest rate. The larger the collection cost ratio z/v, the lower the money base velocity; and the higher the debt ratio, the larger is a country's optimal inflation tax. In a monetary union, this implies that the ESCB members, representing different national interests and different tax systems, will have different target inflation rates.

[10]The optimal inflation and tax rates here are the results of minimizing the preference function $L = \int U(zt_{ys}^2 + v\pi_s^2)exp(-\rho s)ds$ subject to the steady-state government budget constraint $g + \rho b_y = t_y + \pi m_y$, where ρ is the real interest rate and g is the ratio of government expenditure to income.

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Table 3 shows the 1988 values of t_y, m_y, and b_y for the majority of EC countries. Assuming that the values of z/v are equal for all members, we can infer from the computed value of $t_y(m_y + b_y)$ that Belgium, Greece, and Italy would have higher incentives to inflate than France, Germany, and the United Kingdom.[11] The table

TABLE 3

TAXES, MONETARY BASE, DEBT, AND INFLATION RATES

Country	Tax Rate (t_y)	Monetary Base[a] (m_y)	Net Debt[a] (b_y)	$t_y(m_y + b_y)$
Belgium	.460	.077	1.233	.603
Denmark	.605	.041	.246	.174
France	.489	.066	.243	.151
Germany	.443	.100	.235	.148
Greece	.362	.200[b]	.644	.305
Italy	.401	.150[b]	.879	.413
The Netherlands	.543	.087	.554	.348
Spain	.381	.220	.299	.197
United Kingdom	.391	.033	.387	.164

	Relative Inflation Target	H_E	H_y
Belgium	4.07	−6.7	−0.24
Denmark	1.18	−0.20	−0.15
France	1.02	−0.04	−0.09
Germany	1.00	−0.12	0.22
Greece	2.06	0.23	0.19
Italy	2.79	0.77	0.48
The Netherlands	2.35	−4.33	0.35
Spain	1.33	—	0.54
United Kingdom	1.11	−0.04	−0.15

[a]Expressed as a proportion of GDP, 1988 values.
[b]1987 values.

SOURCES: OECD, *Economic Outlook*, n. 45 data diskettes, for net debt; IMF, *International Financial Statistics*, for the monetary base; and European Commission, *European Economy*, Supplement A, n. 2 (July 1989), for average tax rates.

[11]An important implication of this analysis is that fiscally strong and weak countries should refrain from joining a monetary union before achieving convergence of their tax systems, a further argument against the Delors Report's principle of parallelism. See Tanzi and Ter-Minassian (1987), Dornbusch (1988), Council of Economic Advisors to the German Ministry of Economics (1989a), and Giavazzi (1989).

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indicates that these countries would have very different preferred inflation rates for the monetary union, all being larger than the German inflation rate. Unless the Bundesbank were to set the MU inflation rate unilaterally, which is politically unlikely, the MU inflation rate is bound to be higher than the lowest inflation rate currently achieved.

But there is no reason to believe that MU members would want the same target inflation rate for the union as they would for themselves when they conduct independent monetary policies. The reason for this is a familiar free-rider problem. If countries share the revenues generated by seignorage in the MU, then any single country can effectively tax citizens of other countries through a higher MU inflation rate. The preferred union inflation rate for each country now becomes

$$\pi_E = (g^* + b_y\rho)(\theta m_E + \frac{v}{z(\theta m_E + b_y)})^{-1}, \qquad (3)$$

where m_E is the base-money-to-income ratio for the entire union and θ is the ratio of a country's share of MU seignorage to the country's share of MU income. A country's preferred union inflation rate is higher than the country's preferred steady-state inflation rate with independent policies if

$$H = (m_y - \theta m_E)(v/z - (m_y + b_y)(\theta m_E + b_y)) \quad < 0. \qquad (4)$$

The term $(m_y - \theta m_E)$ represents the change that occurs in a country's tax base from the inflation tax when joining the union. The change is negative when the country obtains more seignorage for a given inflation rate inside the union, that is, when free riding occurs. Given the data in Table 3, the term $(v/z - (m_y + b_y)(\theta m_E + b_y))$ is likely to be positive.[12] Consequently, a country prefers a higher union inflation rate than its own, independent one, if it can increase its inflation tax base in the union.

Table 3 displays the values of H under two alternative distribution schemes for union seignorage. H_R distributes seignorage according to countries' weights in the ECU based on January 1987 par values. Given 1988 tax and inflation rates, condition (4) is satisfied for almost all countries. Only Italy and Greece, the two relatively high inflation countries would desire a lower union inflation rate than their preferred independent rate. More significantly, the lowest-inflation countries—Germany, Belgium, and the Netherlands—would have

[12]This can be readily verified by solving expression (1) for v/z and the values indicated in Table 3.

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the strongest preference to raise the union's inflation rate above their own. In comparison, H_y assumes that seignorage is distributed according to each country's share in regional real income. Here we find that the outcome is more favorable to a lower union inflation; in particular, low-inflation countries of Germany and the Netherlands would prefer lower union inflation rates together with Italy and Greece.

The important conclusion from this exercise is that the long-run inflation rate in an MU run by a central bankers' club depends critically on the way seignorage is distributed among the members. An "inadequate" distribution scheme would provide incentives for an inflation-biased union. By implication, we derive the normative prescription that, in developing the institutional structure of the ESCB, the seignorage scheme should be engineered to bias the outcome toward a lower rather than a higher union inflation rate.

To settle on a particular target inflation rate, the rules of the EMU must specify a voting mechanism that allocates voting power to each member. Our analysis indicates that the optimal design of the voting mechanism should be considered together with the design of a seignorage distribution scheme. For example, with $\theta = m_y/m_E$, a simple majority—plus a one-state-one-vote rule—among the countries listed in Table 3 would result in an EMU inflation of at least one-third above Germany's preferred inflation rate. With Spain as the pivotal voter, the same rule would result in a lower inflation rate if combined with the distribution scheme of H_y. More generally, our results suggest that a low EMU inflation rate can be achieved by allocating the majority of the votes to the fiscally strong countries, while compensating the fiscally weak countries with the largest shares in seignorage revenue. In this way, seignorage considerations would not be permitted to distort the fiscally strong countries' incentives toward more inflation, while the fiscally weak countries' interest in higher inflation would not carry enough weight in the common decisionmaking process to raise the union's inflation rate.

Exchange Rate Union versus Currency Union

The final act of the Delors Report envisions that exchange rates be irrevocably locked and that the ESCB take full responsibility for monetary policy in the Community. The report also favors the adoption of a single currency and *hopes* that national currencies will be replaced by a single currency after the implementation of stage 3 (Commission 1989, p. 19). But the Committee does not outline the mechanism that would make possible the withering away of national

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currencies. Our judgment is that the Delors Report embraces the notion of an exchange rate union rather than a currency union. Exchange rate unions have the distinct advantage of preserving existing currencies and the "brand name" they have earned in the marketplace, of softening the objections of the groups that are threatened by the introduction of a common currency, and of leaving the possibility of undoing the union at some future date. This possibility, remote as it might be, is an inherent source of instability (Artis 1989). In particular, national interest rates cannot fully converge. Countries that are perceived to be prone to secede from the exchange rate union will suffer a risk premium, making their interest rates higher than the rest of the union. But the choice of maintaining national currencies preserves the power of national monetary authorities. In this respect, we find the exchange rate union option to be fully consistent with the main message of our central bank club interpretation.

If the exchange rate union is meant to be permanent, then there can be only advantages from adopting a common currency. In addition to eliminating exchange rate uncertainty, a common currency eliminates the transaction costs connected with the sale and purchase of several monies.[13] Unfortunately, by ruling out the support of a parallel currency with features that are superior to those of existing national currencies, the Delors Report strategy can arrive at a currency union only through a currency reform, not through a market-determined outcome.

The All Saints' Day Manifesto (1975) proposed the introduction of an inflation-proof money as an alternative to existing national monies. With a guarantee of a zero real rate of return, governments cannot penalize money holders and, therefore, cannot profit from generating unanticipated rates of inflation. With such a parallel currency, the Manifesto argued that the cost of adjusting to a common inflation rate would not be as sudden as it would be if exchange rates were to be set rigidly at a given date.

The Delors Report "considered the possibility of adopting a *parallel currency strategy*" (Para. 47) but ruled it out because it could jeopardize price stability and complicate the coordination of different national monetary policies. Our interpretation is that a European currency issued either with money back guarantees or supplied in a way that outperformed other European currencies would have met the objections of national authorities who would have feared the disappearance of their monies and the attendant seignorage. Com-

[13]There is no solid evidence on what these savings could be. Artis (1989) speculates that they could amount to 1 percent of EC GDP.

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mittee members must have evaluated the political feasibility of posing a direct challenge to national authorities, and they preferred centralized institution building and a vague hope that national currencies would eventually wither away. Even in this aspect the Committee preferred an administrative solution—future currency reform—to a market-determined process.

Conclusion

This paper assessed the critical issues involved in designing a strategy for European monetary unification as well as the specific strategy proposed by the Delors Report. The report has a bias for centralized market intervention and regulation. In particular, the report does not believe that market forces can discipline national fiscal authorities. We interpreted the Delors Report as a rational response of central bankers fending off the threat of fiscal dominance in a future economic and monetary union. To that end, the central bankers are willing to support the inefficiency built into the EMS to arrive at a monetary union. We also showed that the long-run inflation rate of a monetary union depends critically on the rules of voting and seignorage revenue sharing.

Finally, the Delors Report embraces the notion of an exchange rate union rather than a common currency union, even though it expresses the hope that national currencies can be replaced by a common currency after the final stage. The preservation of national currencies implies the preservation of national monetary authorities, an outcome that is consistent with a club interpretation of central banks.

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An Alternative Public Choice Interpretation of European Monetary Integration

Georg Rich

Although Fratianni and von Hagen address an important issue, I did not find their analysis convincing. The purpose of their study is to develop a public choice interpretation of the European Monetary System and the Delors strategy. They regard the EMS as a club of central bankers pursuing their own political interest. In their view, the central bankers' club attempts to ensure that monetary policy will not be dominated in the planned European monetary union by the fiscal policies of the various national treasuries. Because I found it difficult to follow and understand Fratianni and von Hagen's line of reasoning, I will first appraise critically their fiscal dominance view of the EMS and then turn to alternative public choice interpretations of European monetary unification. I will conclude with a discussion of the Swiss National Bank's attitude toward European monetary integration.

The Fiscal Dominance View

As European economic unification progresses, Fratianni and von Hagen maintain, the effectiveness of national fiscal policies in influencing domestic output and employment will gradually be weakened. To counteract the erosion of their fiscal powers, national treasuries strive to restore their leverage by fixing exchange rates within the economic union. As suggested by the Mundell-Fleming model, under conditions of perfect capital mobility, fixed exchange rates enhance the potency of fiscal policy. In addition, national treasuries have an incentive to coordinate fiscal policies. But Fratianni and von

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The author is a Director of the Swiss National Bank and Head of the Economics Section.

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Hagen fail to explain why national treasuries would be prompted to coordinate fiscal policies and why they would not be content with the additional leverage afforded by fixed exchange rates.

While fixed exchange rates strengthen national fiscal policies, they weaken national monetary policies. According to Fratianni and von Hagen, central bankers in the European Community (EC) perceive fiscal dominance as a threat to their power and independence. Therefore, Community central banks are induced to form a club, whose aim is to ward off the threat to their independence.

Fratianni and von Hagen regard the Delors strategy as the central bankers' response to the expected increase in fiscal dominance. The Delors strategy offers two advantages to the central banks. On the one hand, the proposed three-stage approach to achieving the monetary union allows central banks to avoid irrevocably fixing exchange rates until stage 3 is reached. Therefore, they need not immediately surrender their autonomy to the supranational European System of Central Banks. On the other hand, the Delors strategy's emphasis on binding rules concerning the financing of national budget deficits is designed to mitigate the threat of fiscal dominance once the monetary union is fully realized.

Fratianni and von Hagen also address the question of whether the central bankers' club will follow inflationary or deflationary policies. This discussion is only loosely related to the preceding parts of their paper. In their analysis of the Delors strategy, Fratianni and von Hagen merely assume that the central bankers' club wishes to preserve as much power and independence as possible, but they fail to show why the club seeks independence in the first place. Only later do they reveal the clubs' preferences. Reading their explanation, I was surprised to learn that the club is mainly preoccupied with maximizing real seigniorage on the monetary base. I find it odd that Fratianni and von Hagen focus their attention on seigniorage. Why would the central bankers' club fight for independence if its sole function after reaching the final stage of the monetary union were to collect an optimum inflation tax on behalf of the fiscal authorities? It might just as well accept fiscal dominance in the first place, because it will be nothing more than an independent tax collector. In my view, Fratianni and von Hagen offer only a caricature of the EMS and monetary unification.

An Alternative Interpretation

An application of public choice analysis to European monetary integration need not be a fruitless exercise; it can provide interesting

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insights into various aspects of the integration process. In particular, public choice analysis can shed light on the question—addressed by Fratianni and von Hagen—of why central bankers have been assigned a major role in designing the strategy for European monetary integration. I shall attempt to sketch an alternative and, I believe, more plausible answer to this question.

I take it for granted that the ultimate aim of European monetary integration is to fix irrevocably internal exchange rates within the EC and to replace the existing national moneys with a common currency. This implies that at some stage of the integration process, a Community central bank must be established that is responsible for issuing the common currency. I will pass over the reasons why most EC countries prefer fixed to floating internal exchange rates. This issue has been discussed intensively and I have nothing to add to the debate. However, Fratianni and von Hagen, in my view, miss the main point of the debate when they argue that fixed internal exchange rates serve to enhance the potency of the EC members' fiscal policies.[1]

Whatever the reasons for fixing exchange rates within the EMS, several EMS members realized that a fixed-rate regime offered an advantage that they had not fully perceived at the outset. By pegging their exchange rates directly to the ECU and indirectly to the Deutsche mark, they could benefit from the efforts of the Bundesbank to keep inflation low. Thus, the Deutsche mark increasingly played the role of an anchor to the EMS, ensuring that the various Community central banks would focus their monetary policies on price stability. The shift in focus on price stability was particularly evident in countries in which central banks had been forced—and are still forced, to some extent—to finance large budget deficits by an inflationary expansion in the domestic money supply. The fetters imposed on irresponsible fiscal behavior by a fixed exchange rate allowed these central banks to gain greater independence from their national governments and to shift their attention to the problem of achieving and maintaining price stability.

Needless to say, European monetary union would be counterproductive if it were to be accompanied by a relaxation of the fetters on irresponsible fiscal behavior at the national level. Concern about an erosion of fiscal discipline, in my view, was the main reason why the design of the strategy for achieving monetary unification was entrusted to a central bankers' club. Not surprisingly, that club pro-

[1]Fratianni and von Hagen (1990) regard fixed internal exchange rates as an instrument of monetary policy coordination. I do not find this view convincing either (Rich 1990a).

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posed setting up an autonomous European System of Central Banks to ensure that future Community monetary policymakers would focus their attention on price stability. This approach not only suits the interests of the existing autonomous central banks within the EC, it also finds supporters among those countries that feel compelled to narrow the room for maneuver of their domestic governments by means of a fixed exchange rate.

In the light of these considerations, the call for binding fiscal rules by the central bankers' club is understandable. Nonetheless, I share Fratianni and von Hagen's skepticism about the effectiveness of fiscal rules. They present sobering evidence on the performance of such rules in the United States. But I am not convinced by their argument that market forces will be sufficiently powerful to curb irresponsible fiscal behavior in the proposed monetary union. Would premia on borrowing costs in the international capital markets really deter such behavior, as Fratianni and von Hagen seem to believe? The experience of the highly indebted lesser-developed countries certainly does not lend support to the view that premia on borrowing costs serve as effective disciplinary devices. It is impossible to predict whether European monetary unification will be accompanied by a tightening or a relaxation of the constraints on fiscal authorities. The supporters of European monetary unification, of course, expect that the adoption of a common currency will establish a zone of stable internal exchange rates and stable prices. As a central banker coming from a country with a strong federalist tradition, I may be forgiven for a deep distrust in centralist solutions. Local problems that cannot be solved at the local level frequently remain unresolved if they are shifted to a higher level of government.

While the usefulness of binding fiscal rules is open to debate, the Delors proposal for establishing an autonomous European System of Central Banks is sensible if the European monetary union should ever materialize. An autonomous supranational central bank, clearly committed to achieving and maintaining price stability, would more likely pursue responsible monetary policies than an institution directly controlled by the executive or legislative branches of government. An autonomous status would increase the chance that the supranational central bank would conduct time-consistent policies. Economic policies are said to be time inconsistent if they seem optimal in the short run but harm the economy in the longer run. Financing budget deficits by means of an inflationary expansion in the money supply tends to be time inconsistent. As the public incorporates rising inflation expectations in economic contracts, monetary authorities must engineer ever-increasing inflation rates in

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order to maintain the real value of government revenue from money creation. Similarly, expansionary monetary policies, designed to raise output and employment in the short run, are time inconsistent if they fuel inflation in the longer run.

Opponents of central-bank autonomy frequently argue that such an institution has no place in a democratic society. Would the democratic process itself not generate time-consistent policies? I am unable to answer this question, which, I believe, would merit further study. However, I do know that the Swiss voters toward the end of the 19th century came to the conclusion that an autonomous central bank would be a better guarantor of time consistency in monetary policy than an institution closely controlled by the government. The Swiss National Bank was established in 1907, ending a tortuous debate on the pros and cons of central-bank autonomy. In 1891, the Swiss federal constitution was amended in order to transfer to the federal government the exclusive right for issuing bank notes. The amended constitution allowed for two possible modes of issuing notes: The federal authorities were empowered either to set up a state bank of issue or to vest the note issue privilege in an autonomous central bank, organized as a corporation with its own legal identity. At first, the authorities opted for a state bank of issue. This solution did not appeal to the Swiss voters, who rejected the proposal for establishing a state bank of issue in a referendum held in 1897. After the voters' verdict, the authorities could not help proposing an autonomous central bank. In a second referendum in 1905, Swiss voters decided in favor of autonomy. They clearly preferred to entrust monetary policy to an autonomous central bank rather than to an institution governed by the normal democratic process.[2]

Switzerland and the EMS

Switzerland is not a member of the EC and, therefore, does not belong to the EMS. In principle, the Swiss monetary authorities have allowed the Swiss franc to float on the foreign exchange market since 1973. The floating exchange rate enables the Swiss National Bank to control tightly the domestic money supply in an effort to achieve and maintain price stability. Because Switzerland possesses a highly open economy, however, the Swiss National Bank cannot disregard entirely the exchange rate, and in exceptional circumstances, the Bank has attempted to curb excessive swings in the exchange rate of the Swiss franc. Although the Bank has refrained from exchange rate

[2]In addition to autonomy, the voters believed that the gold standard would prompt the Swiss National Bank to conduct time-consistent policies.

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management as much as possible, it has not always been successful in reconciling its objective of price stability with its desire to keep the exchange rate stable.[3] If monetary policy is directed at the exchange rate, then the Bank may be forced to change the money supply in ways that are inconsistent with the goal of price stability.

The difficulties arising from the volatility of exchange rates prompts many critics of current Swiss monetary policy to conclude that Switzerland would fare better with a fixed-rate regime than with the present system of floating. Although Swiss monetary authorities do not rule out the possibility of returning to a fixed exchange, they have no intention of abandoning the floating-rate regime in the near future. If Switzerland were to peg its currency to the Deutsche mark or the ECU, then the Swiss National Bank would forego its ability to control the domestic money supply and the domestic price level. The Swiss price level would be linked to that of Germany or to the average of the EMS countries.

Many proponents of fixed exchange rates believe that pegging the Swiss franc to the Deutsche mark or the ECU would kill two birds with one stone. It would bring about both stable exchange rates and stable prices. We cannot be certain, however, that the proponents of fixed exchange rates will be right. If Switzerland switched to a fixed exchange rate, then our own price performance would mirror in large measure that of Germany or the EMS. Admittedly, EMS members have been successful in curbing their inflation rates. Nevertheless, the future of the EMS remains sufficiently cloudy that a formal or informal adhesion of Switzerland would be premature. Switzerland should not lightly abandon the means of keeping its own monetary house in order. We strongly believe that we should rely as much as possible on monetary self-discipline rather than on discipline borrowed from our neighbors.

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[3]See Rich (1990b) for a detailed analysis of the Bank's experience with exchange rate management.

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The Delors Committee and Report: A Public Choice Analysis

Roland Vaubel

Public Choice Analysis of the Delors Committee

Why was the Delors Committee on monetary union set up, and why in 1988? There seem to be two reasons. First, by 1987 the EMS had attained low rates of inflation (2.2 percent on average) so that the European Community and ultimately the Bundesbank were no longer needed as a political scapegoat for disinflation. The Bundesbank's dominant position had become a political problem. Second, the internal market program has provided for the removal of restrictions on capital movements. Several empirical studies (Rogoff 1985, Artis and Taylor 1988, de Grauwe 1988) have shown that French and Italian capital controls have generated large and highly variable interest rate differentials between onshore and offshore rates in these currencies and that, by implication, they have played an important role in shielding domestic monetary conditions in France and Italy from Bundesbank policies. With the removal of French and Italian controls, the Bundesbank is likely to increase its influence on monetary conditions in these countries. Thus, it is not surprising that the French and Italian governments and central banks pressed for "closer coordination" to gain more control over the Bundesbank's monetary policy. The first step in this strategy was the Padoa-Schioppa Report of 1987; the second is the Delors Report.

The German Minister of Foreign Affairs and his diplomats supported this strategy. They had borne the brunt of foreign discontent with the Bundesbank's dominance, and international coordination would increase their influence in the German government. The Delors Committee served to confront the Bundesbank with the accumulated discontent of the other EC central banks; and since the

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The author is Professor of Economics at the University of Mannheim.

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president of the Bundesbank was invited on his own, he was isolated from the "hardliners," a majority of his Bundesbank Council. He could not but accept the invitation, given that the German government had been in favor of the Delors Committee. According to the Bundesbank Law, the Bundesbank is obliged not only to secure the value of the currency but also to support the general policies of the government.

Public Choice Analysis of the Delors Report

Most, if not all, central bank governors on the Delors Committee had an interest in obstructing monetary unification by imposing far-reaching conditions. This explains why the Delors Report demands binding European restraints for the national budget deficits, a substantial increase of the Commission's budget for regional and other "structural" policies, and a common policy on mergers. Because the member governments were unlikely to agree on all these policies, the Committee's conditions served to reduce the probability of monetary union. Most governors were interested in more coordination—that is, in more influence over the Bundesbank—but not in a European central bank, which would cost them much of their power.

Fratianni and von Hagen offer a completely different explanation of why the Delors Committee insisted on European fiscal restraints for the national member governments. According to their "fiscal dominance hypothesis," central bankers are afraid that national governments might exploit the transition to more rigid exchange rates by making more active use of fiscal policy (to which the money supply would have to adjust).

There are serious difficulties with this interpretation:

1. Fiscal dominance does not seem to be a major problem in existing currency blocs (including the EMS).
2. Why should the central bankers recommend a centralization of fiscal policies if this increases the danger of fiscal dominance at the central level (as Fratianni and von Hagen suggest)?
3. Why should the central bankers call for fiscal restraints to ward off fiscal dominance if such restraints are known to be more or less ineffective for the purpose (as earlier studies have shown)?
4. Why has the Delors Committee not used Fratianni's and von Hagen's justification for fiscal restraints if it believes in this justification? The prevention of fiscal business cycles would have been a highly popular justification. Why has the Committee used a different justification, which—as Fratianni and von Hagen point out—is not convincing? My own answer is that the

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Committee did not think of Fratianni's and von Hagen's story and that its strategy of putting stumbling blocks in the way of monetary unification had to be concealed.

If fiscal dominance—that is, fiscal business cycles—are perceived to be the problem, then Fratianni and von Hagen ought to have devised a different test. What is at stake is not the average size of budget deficits or debt or their differences among American states. The issue is whether budget deficits have been less variable *over time* under fiscal restraints than without. Fratianni and von Hagen test the lender-of-last-resort hypothesis of the Delors Committee but not their own hypothesis.

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Does Europe Need a Federal Reserve System?

Kevin Dowd

Does Europe need a Federal Reserve system? During 1988 and 1989, this question went from being a completely academic one to being one of the most controversial issues of the day. In June 1988, the leaders of the European Community (EC) member governments agreed at their Hannover summit to form a committee under Jacques Delors, president of the European Commission, to investigate alternative routes to economic and monetary union and to recommend the most appropriate direction. The Delors Report, submitted in April 1989, offered nothing less than a blueprint for a federal European superstate (see Delors 1989).[1] Apart from a radical centralization of fiscal powers, the report also recommended that the separate European national central banks be merged into a new European central bank organized along Federal Reserve lines. To achieve this objective, the United Kingdom was first to join the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS). The exchange rates of the EMS currencies would then be fixed irrevocably; the existing central banks would become part of a European version of the Federal Reserve system with a status much like that of the Federal Reserve banks in the United States, and the separate European currencies would be merged into one new currency.

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The author is Lecturer in Economics at the University of Nottingham. He wishes to thank Bob Ackrill for help in sorting out EC finances and Anna Schwartz and George Selgin for their comments. The usual caveat applies.

[1]The Delors Report has been subjected to scathing criticism in the United Kingdom. See, for example, Goodhart (1989a), Wood (1989), Eltis (1989), and Dowd (1989b). For the Treasury response to it, see Treasury (1989). Goodhart (1989a, p. 24) captured the essence of the criticism when he wrote that the report "reads as if its authors were convinced that there is only one currently feasible strategy for the coming stages of European unification: this is a federal strategy, a Hamiltonian strategy, to transfer increasing powers to a federal centre of the United States of Europe. No alternative is even considered."

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This paper offers a critical assessment of the proposal for a European central bank. Because the arguments for a central bank and monetary union are often run together, I will begin by looking at the costs and benefits of different forms of monetary union and will suggest that the argument for the extreme degree of monetary union implied by a common currency is dubious. Because one of the purposes of a European central bank would be to provide a common currency, these considerations indicate that the case for a European central bank is much weaker than is often appreciated. In any case, the costs and benefits of monetary union cannot be assessed in isolation, and it is especially important to establish whether or not the central bank would produce stable monetary conditions. I then investigate the likely relationship between the central bank and the EC and the impact of the EC's financial problems on central bank policy. It is very probable that substantial fiscal pressure would be brought to bear on the central bank, resulting in both higher inflation and a drive toward re-regulating the European banking system. I also will consider America's experience with its Federal Reserve System. There is considerable evidence that the Fed has significantly destabilized the U.S. economy, and there is reason to believe that a European Fed would do even worse.

There are some alternatives to a European central bank. One option is simply to continue with present EMS arrangements. While this option would leave Europe with some unnecessary monetary instability, it is nonetheless demonstrably superior to a European central bank. An even better alternative is to institute a currency reform that pegs the value of the currency to a basket of real commodities, eliminating inflation once and for all. Having stabilized the currency, we could then do better still by opening up the issue of currency to free competition and by eliminating existing central banks altogether.

The Benefits of European Monetary Union

Much of the controversy over a European central bank centers on the question of monetary union. "Monetary union" can be used to describe an arrangement where the exchange rates between different currencies are fixed, and are widely perceived to be permanently fixed, but where currencies are still distinguishable. The term can also be used to describe an arrangement where everyone uses a common currency. It is important to keep these two types of monetary union separate because they give rise to quite different issues.

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The main benefit from adopting fixed exchange rates stems from the reduction in uncertainty about future changes in exchange rates. While exchange rates are still flexible, firms that engage in international trade have to cope with fluctuations in their profit margins that arise from unforeseen changes in exchange rates. Sometimes firms can cover themselves against these risks by engaging in futures operations, but that kind of cover is costly even where the market is relatively thick, and elsewhere the thinness of markets (for example, for cover years ahead) makes cover so expensive that firms often prefer to take the exchange rate risk instead. It is hard to quantify these benefits from the elimination of exchange rate uncertainty, but intuition suggests that they are probably quite important.[2] We must weigh the costs of a fixed-rate system against these benefits. There is some controversy over what the costs might be, but the main one seems to be implied by a move away from optimal currency areas. There is a cost to tying currencies together if they belong to different optimal currency areas, but the potential loss is hard to assess because we have little idea what the optimal currency areas might be.[3] It follows, then, that it is not clear whether or not fixing European exchange rates generates a net gain.

Whether there are any net gains from then merging separate currencies is also problematic. The main benefit from adopting a common currency is the reduction in transactions costs that arise in

[2]Artis (1989, p. 5) estimated the benefits to be about 1.5 percent of GDP, but this is little more than an informed guess. Artis (p. 18) also suggested that "there is an irreducible incipient instability" with fixed-rate systems because there is always a positive probability they might be dissolved. He concluded that a fixed-rate system cannot eliminate all exchange rate uncertainty but a common currency can. But the subjective probability that individuals form of a future dissolution depends on the institutional structure that lies behind the monetary system, not on whether we have fixed exchange rates or a single currency. Even a common currency might be dissolved if countries subsequently withdrew from the EC, and there are historical precedents (for example, the dissolution of the common currency after the breakup of the Austro-Hungarian Empire).

[3]Vaubel (1989, p. 6) argues that there is "no operational scientific method of measuring and comparing the costs and benefits" of a fixed-rate system. His real exchange rate criterion for optimal currency areas allows for such factors as labor immobility, diversification, and fiscal integration, so these factors should not be considered as costs in addition to those covered by the theory of optimal currency areas. According to Vaubel (p. 9): "The traditional criteria of optimum currency areas are mostly ambiguous [and] difficult to measure." Thus, "the availability of a comprehensive and operational measuring rod, the real exchange rate criterion, is important." However, for Vaubel, "It is not comprehensive enough. It ignores the other cost of currency unification: the weakening of currency competition; and it does not take full account of the benefits of currency unification."

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changing from one currency to another.[4] The costs involved seem to vary from perhaps 3 to 4 percent for tourist exchanges to trivial amounts for large business transactions,[5] and one could probably get some idea of the magnitude of potential cost savings from the resources currently used up by *bureaux de change*.[6] As a rough order of magnitude, cost savings probably amount to 0.1 percent of GNP, and we must weigh the costs of adopting a common currency against those savings. Prices, salaries, accounts, and other nominal values would all have to be altered, and machines would have to be adapted to deal with the new currency. People would have to adjust to it, and these psychic costs could be more significant than any other. There is no hard evidence on these costs, but the British experience with decimalization in 1971 is instructive. Also bear in mind that decimalization only changed the constituent elements of the basic monetary unit: Shillings and old pennies were replaced by "new pence," but the pound remained untouched. Adopting a common currency would be a more radical change, because the basic unit itself would be altered. The implication, then, is that these costs would eat significantly into the gross saving to produce a very small net gain—and there may be no net gain at all.

It should be clear that the case for monetary union in either form is far from obvious. It should also be clear that the question cannot be resolved by arguing about it in the abstract, because no one has the information needed to predict confidently the relevant gains or losses. In the final analysis, the only way to resolve the issue would be to create the conditions for free competition between different

[4]Goodhart (1989b, p. 12) reckoned that these savings "are of some considerable importance, but are not massive by any standards."

[5]Eltis (1989) suggested figures of 2.5 to 3 percent for tourist exchanges and 0.5 to 1 percent for large business transactions. The first figure understates the cost because it includes only the pecuniary cost of exchange and ignores the inconvenience cost of having to go to a *bureau de change*. The second figure seems to be an overstatement. Large business transactions are paid for by using credit instruments (e.g., checks and credit cards), and it is not clear why carrying out such transactions across different currencies adds significantly to their cost; whether there is a single currency or not, the settling up procedures are not fundamentally different. Even so, Eltis (1989, p. 1) estimated that the total savings from moving from flexible rates to a single currency amount to only 1 to 1.5 percent of GDP at most, a figure that is not far different from mine.

[6]The resources used by *bureaux de change* overstate the relevant cost in one respect and understate it in another. They overstate it because the only *bureaux de change* activity that would be eliminated is between the currencies that are merged. They understate it because not all currency exchanges actually take place through such *bureaux*.

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currencies and see what happens.[7] If the public feels that fixing exchange rates is worthwhile, then it will exercise market pressure on the issuers to peg their currencies; if the public wants a single currency as well, one will evolve from the competitive process. As Vaubel (1989, p. 11) observed:

> I used to believe that the desirability of European currency union was a foregone conclusion and that currency competition would merely show us the optimal path to that end. I now realise that the end itself has to be questioned and that currency competition is not only the optimum currency unification process, if currency union is desirable, but also the optimal procedure of finding out whether currency union is desirable.

The Importance of Price Stability

The monetary union issue can never be resolved in isolation. What we are really interested in is the monetary environment, and monetary union is only one part of that environment. Another aspect is its stability, and it is impossible to responsibly support a plan for monetary reform without first knowing that it will produce stable monetary conditions. Monetary instability must be avoided for several reasons. It injects unnecessary "noise" into the price "signals" on which the market mechanism relies to allocate resources properly; therefore, it leads individuals to make costly "mistakes" they would otherwise have avoided. Monetary instability obliges people to invest time and resources trying to cover themselves against the risks to which it exposes them, and it leads them to neglect socially worthwhile, long-run projects and to concentrate excessively on short-term survival. It distorts investment activities and fuels speculative "bubbles" by encouraging people to seek out allegedly safe assets as a hedge. Monetary instability produces arbitrary gains and losses that have nothing to do with any socially worthwhile activity, that undermine the institution of private property, and that erode confidence in the integrity and fairness of the market system. Both recent and historical experiences of high inflations suggest they cause hardship and massive social and economic disruption. I expect that the costs of inflation vastly outweigh any gains that may be

[7]To the extent that the case for a central bank depends on the case for a single currency, the only way to advance the case for a central bank would be to establish free competition to indicate whether there should be a single currency (although it is well established that a single currency does *not* require a single issuer; see White 1984, Selgin 1988, Dowd 1989a, and Glasner 1989). However, I certainly do not dispute Schwartz's claim in her discussant's comment that competition among currencies might involve large information costs. I would claim only that we simply do not know enough to justify imposing a single currency by fiat.

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obtained from European monetary integration. Although monetary union *might* be worthwhile *if* it comes with price stability, we would be ill advised to sacrifice price stability for mere monetary union. Price stability is the central issue, and monetary union *per se* is only secondary in comparison.

Given the importance of monetary stability, we might have expected the Delors Report to have offered some guarantees that the new European central bank would deliver stable prices, but the report offered no reassurance on this issue. It stated only that the bank "would be committed to the objective of price stability" (p. 18), but it made no suggestions about how the bank would achieve that objective. It reads as if the statement of intent (that the bank is expected to achieve price stability) would be sufficient to ensure that the bank *would* actually achieve it. Central bank statutes the world over are littered with similar "commitments" to price stability, and none of them actually achieves it for long, if at all. There is no reason to expect that a new European central bank would succeed where other central banks have failed. The Delors Report further undermines price stability by insisting that it is not its only objective. Monetary policy is also to be coordinated with national and EC fiscal policies and with general macroeconomic policies as set out by the Council of Ministers, which have a wide range of differing objectives (e.g., "balanced growth, converging standards of living, high employment and external equilibrium" (Delors 1989, p. 8).[8]

It is also doubtful that the European central bank would achieve price stability because it would have relatively limited independence from political interference. While the Delors Report stated that the central bank "should be independent of instructions from national governments and Community authorities" (p. 20) and suggested how the bank might be constituted to give it some independence, the report undermined that independence by suggesting that the bank be held accountable to the Council of Ministers and the European Parliament. Such accountability, however, would almost inevitably make it difficult for the central bank to pursue policies of which European politicians would strongly disapprove. The Delors Report also undermines the central bank's independence by recommending that the Council of Ministers have overall responsibility for macroeconomic—and, presumably, monetary—policies. Whatever the bank's independence on paper, the politicians would inevitably have considerable leverage over it in practice, and the empirical

[8]A related issue is *why* certain people want a European monetary union or a European central bank. George Selgin covers this issue in his accompanying comments.

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evidence clearly indicates that "the average rate of inflation is significantly lower in countries that have highly independent central banks compared with those that do not" (Bade and Parkin 1981, p. 33).

Central Banks and Inflation

There are various reasons to expect a central bank to inflate and be more prone to inflation the less independence it has. Suppose we have a monetary authority that has a monopoly over the issue of inconvertible currency.[9] This monetary authority can be considered a combination of central bank and government, and the objectives it follows depend on the underlying objectives of governing politicians and central bankers and on the balance of power between them. The less independence the central bank has, the more weight is assigned to the interests of the politicians. The politicians are primarily interested in manipulating the economy to get re-elected and in collecting seignorage as a disguised tax that enables them to avoid the unpopularity of more explicit forms of taxation. The central bankers do not have to face popular re-election, and they get little or no direct benefit from seignorage, at least at the margin.

The monetary authority is self-interested, and it aims to manipulate inflation in its own interest; that is, it aims to create sufficient inflation to bring the marginal benefit that it derives from inflation down to the marginal cost that inflation imposes on it. The marginal benefit derives from the reduction in unemployment generated by unanticipated inflation and from the seignorage that the monetary authority collects. The cost derives from the adverse criticism that inflation provokes and the erosion of the monetary authority's credibility. If the monetary authority were to produce zero inflation, then the marginal benefit of inflation would exceed the cost; thus the monetary authority would not produce price stability, and the public would not expect it to. The public would expect the inflation rate that was in the bank's own interest, so the equilibrium inflation rate would be some rate above zero. This rate will also vary with changes in the marginal costs and benefits of inflation. These changes will often be unpredictable, because many of the benefits of inflation to the monetary authority stem from it successfully surprising the private sector. Therefore, there would be not only inflation, but unpredictable inflation as well.

[9]This discussion is based loosely on the literature stemming from Barro and Gordon (1983). For a good evaluation of it, see Blackburn (1989).

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It should also be clear why a central bank that lacks independence will produce more inflation. The benefits of inflation accrue primarily to governing politicians rather than central bankers, but there is no such obvious discrepancy in the distribution of the costs of inflation. The less independence a central bank has, the greater the influence of the politicians on central bank policy, and the more it will reflect their desire for relatively high inflation. The politicians' desire for high inflation also implies that a central bank that is under the thumb of its government will have less credibility with the private sector as an institution that is serious about controlling inflation, and this lack of credibility will push the equilibrium inflation rate even higher than it would otherwise be.

The State of EC Finances

The likelihood that the new central bank would inflate is further reinforced by the state of EC finances. The basic problem is the European Community's failure to control its expenditures. Uncontrolled expenditure growth had already pushed the community into technical bankruptcy by 1983.[10] The "solution" was to massage the budget and defer spending; and, as Swinbank (1988, p. 3) observed, "Crisis management, and budgetary chicanery [have] prevailed ever since."[11] In 1985, member governments tried to ease the pressure on the Community's budget by increasing its share of VAT revenues from 1 to 1.4 percent of the notional VAT base—an increase of about 26 percent in its resources (Koester and Terwitte 1988, p. 103)—but the budgetary crisis continued to mount. By 1987, even the Commission (1987, p. 2) was forced to admit that

[10]One might wonder how the EC could be technically bankrupt when its budget is theoretically always in balance. In practice, the EC was able to maintain the fiction of a balanced budget by pushing unfunded liabilities into the future where it lacked the means to honor them.

[11]The EC had many ways of disguising its true budgetary position. One was to manipulate the accounts for its Structural Adjustment Funds. Another was to over-value agricultural stocks by valuing them at purchase prices instead of disposal prices. The EC also massaged its accounts by diverting agricultural surpluses into its stockpiles instead of exporting them. The EC has to pay the cost almost immediately if CAP surpluses are exported, but if surpluses are stored, member governments pay the immediate costs and the EC pays them back later. Although this enables CAP expenditures to be put off to another day, the "eventual Budget costs can be horrific, . . . for throughout the storage period storage and finance costs must be paid, and when the stocks are eventually released then the Member States must be reimbursed for the 'loss' in value. If intervention, rather than export, is systematically pursued for short run gains, then the inheritance is burgeoning intervention stores *and* running costs" (Swinbank 1986, p. 2).

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> the community is . . . faced with a budgetary situation which can only be characterised as being on the brink of bankruptcy. . . . the Community has sunk into a morass of budgetary malpractices needed to conceal or postpone the real financial implications of Community policies. Thus, the budgetary effect of the unprecedented build-up of agricultural stocks has been disguised by gross over-valuation of the stocks: actual budgetary deficits have been carried forward and only covered belatedly by ad hoc solutions; and Community commitments have been allowed to accumulate without proper financial provisions. . . . the Community has not been equipped with the necessary means to adapt policies to the desired expenditure scenarios [that is, the Community cannot manage its budget properly].

The escalating financial crisis led the Brussels summit in February 1988 to agree on a package of measures designed to put EC finances on a firmer basis. Principal among those measures were agricultural price "stabilizers" intended to limit intervention if EC production quotas were exceeded. The summit also agreed to grant the Community a 25 percent increase in its revenues by agreeing to a new contribution by each member state on the basis of its GNP (Koester and Terwitte 1988, p. 103)—equivalent to a rise in its implicit VAT rate to 2.2 percent. This new revenue source was "residual finance" to provide the Community with just enough funds to balance its budget, but it was to be subject to a ceiling intended to keep EC spending under control. The spending ceiling was initially set at 1.12 percent of Community GNP in 1988, to increase by steps to 1.2 percent in 1992 when it would be reviewed.[12]

It is highly unlikely that these measures actually achieved anything more than a short-term respite for the EC's budgetary problems. The stabilizer mechanisms were relatively limited, and the underlying incentive to over-produce agricultural products remained intact. As one study (Field, Hearn, and Kirby 1988, pp. 32–33) observed:

> In view of the [political] pressures for [agricultural] price increases, technological changes which will increase production, and the gradual application of EC measures and prices to Spain, the Community will have difficulty keeping support expenditures within the targets set . . . there will be considerable pressure to exceed the amounts agreed on and to borrow or transfer funds supposedly allocated [elsewhere]. . . . Any assumption that . . . genuine reform has been achieved in EC agriculture, would be highly misleading.

[12]The EC also engages in a considerable amount of off-budget financing. In 1988, such financing amounted to about 25 percent of its total budget (Commission 1989b, p. 10).

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This conclusion was echoed by Koester and Terwitte (1988, p. 104): "In [the] future the CAP will cost more, not less. The decisions regarding 'stabilizers' and land set-aside schemes . . . will probably have little impact." But perhaps the main weakness of the Brussels package was that there was no means to make its theoretical limits on EC spending effective in practice. There was no mechanism by which support could be cut off or other penalties imposed if limits were exceeded. Furthermore, the Commission had no incentive to keep its costs down.

The underlying dynamic of Community finance is therefore quite clear. Member governments impose limits on EC spending, but they do not enforce them and implicitly encourage the EC to violate them. Whenever those limits were exceeded and a financial crisis ensued, as in 1983 and 1987–88, member governments did nothing to penalize those involved and to bring expenditures under control. Instead, they rewarded the Community each time by giving it substantial increases in resources that would put off the crisis for a while. Meanwhile, EC expenditures continued to escalate, and we are now presumably heading for the next crisis in a year or two. This is the fiscal context within which the proposal for a European central bank needs to be viewed.[13]

EC Finances and the European Central Bank

The establishment of a European central bank would give the EC a major new source of finance: the seignorage from money creation. The amount of seignorage that European governments currently collect varies from one country to another.[14] Some indicative figures for the early- and mid-1980s are 0.1 percent of GDP for the United Kingdom and Belgium, 0.2 percent for Germany, 0.7 percent for France, 2 percent for Italy, 3.4 percent for Greece, and 4.8 percent for Portugal (Grilli 1989, Table 1). As a general rule, the higher figures are due to reserve requirements that increase the demand for

[13]This account of Community finances gives a rather optimistic picture because it ignores certain other problems. One is the problem of outright fraud. Tiddeman indicated that from 10 to 20 percent of Community subsidies are defrauded (in Tutt 1989, p. 100). Another is the sheer inefficiency of the Community. See Tutt (1989, p. xiii).

[14]The measure of seignorage referred to below are the increases in monetary base, but increases in monetary base are not the only revenues that governments can appropriate using inflation, or even the most important ones. As Friedman and Schwartz (1986, p. 56) observed, decreases in the real value of outstanding government debt due to inflation are at least as important. It follows, then, that the Community could increase its seignorage revenues considerably beyond the levels suggested in the text if it were to start issuing debt whose value is then depreciated by inflation. This consideration, of course, further magnifies the problems already highlighted.

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the monetary base (e.g., in Portugal), but seignorage revenues are tending to fall in these countries as their reserve requirements are phased out. If we take this factor into account, it seems reasonable to suppose that the average seignorage revenue in the EC will settle down to perhaps 0.2–0.3 percent of GDP. Were the European central bank to collect the same amount and pass it back to the Community, seignorage revenue would increase the EC resource base by 17 to 26 percent.

Nonetheless, it would be a mistake a view seignorage as a relatively fixed addition to Community resources, comparable, for example, to the VAT revenues over which it has no direct control. The EC could always increase its seignorage revenues by pressing the new central bank to reimpose reserve requirements to buttress the demand for monetary base, and the figures for France and Italy give some indication of how reserve requirements and other regulations can substantially increase seignorage revenues. If reserve requirements could push up average seignorage even to the relatively low French figure of 0.7 percent, then seignorage revenues would increase by a factor of two and a half and constitute an addition to total Community revenues of around 60 percent.[15] The Community could also generate additional seignorage by leaning on the central bank to inflate at a faster rate. Some indication of the amounts involved can perhaps be obtained from the increases in seignorage that occurred when inflation rose substantially during the 1970s. Grilli's figures for the 1960s and 1970s indicate that decade-average seignorage/GDP ratios rose for 8 of the 11 current EC member countries (excluding Luxembourg), and the average rise was about 0.4 percent of GDP.[16] Such a figure implies that pushing inflation back up to the levels of the 1970s would approximately double seignorage revenues, and seignorage would presumably increase further if inflation was pushed even higher.

These figures suggest that a European central bank would substantially increase EC resources even if it kept inflation down to current EMS levels and refrained from reimposing reserve requirements. Apart from increasing the Community's resources, a central bank would also significantly soften the budget constraint that the Community faces, and that constraint is arguably far too soft already. At the

[15]The case of France is taken only for illustrative purposes, but it may well understate the potential revenues involved. We would get considerably higher revenues if we used Italy or Portugal as examples or if the new central bank imposed more stringent reserve requirements.

[16]Again, these figures are illustrative, but the average figure of 0.4 percent is relatively robust to how one takes the average.

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moment, the cost to the Community of exceeding its budget is a lot of bad publicity and the probability that member governments might become sufficiently incensed that they stop arguing with each other and agree to do something about it. While still allowing the Community its traditional option of increasing its resources by spending itself into a crisis and looking to member governments to bail it out, the new bank would give the Community the additional option of increasing its resources by taking subsidized loans from the central bank that could be disguised to divert criticism and the danger of outside interference. A European central bank, therefore, would be a further disincentive for the Community to rein in its spending, and it would make the establishment of rationality in EC finances even more difficult than it already promises to be.

Apart from being detrimental to European public finance, a central bank would also be very damaging to the European financial system. For reasons already explained, the Community would be strongly tempted to finance its overspending at least in part by imposing reserve requirements and other regulations on the banking system. Taxing the banking system in this way is politically attractive, because such taxes would be relatively easy to disguise; and, in any case, banks are often an easy political target because they rarely get much public sympathy. Nor is there any reason to expect that the Community would subsequently refrain from further taxes on the banking system. The very factors that led the Community to intervene the first time will encourage it to do so again, and the burden on the banks will tend to increase over time, seriously eroding the efficiency and competitiveness of the European financial system.

There is also a very real danger that the Community's search for new ways of taxing the financial system could wipe out the Euromarket as well as undermine the relative freedom on which the prosperity of Europe's financial centers depends. London would be especially vulnerable in this regard. Another disturbing feature of these interventions is that the central bank would be most unlikely to justify them as taxes, because to do so would expose it and the Community to unnecessary criticism. Instead, the central bank would be likely to hide behind the smokescreen that the interventions were required for various "prudential" purposes: to "stabilize" the banking system, to "protect" widows and orphans, and so forth.[17]

[17]See Selgin (1988, 1989) and Dowd (1988, 1989a), who both argue that interventions to stabilize the banking system have usually had just the opposite effect. As for the "widows and orphans" argument, the single most important service the government could provide such people would be to protect the value of their investments by refraining from inflation, something that governments have singularly failed to do.

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These excuses would establish the unfortunate precedent that the European central bank *ought* to be intervening for these purposes. The justifications for the earlier interventions would then encourage the bank to develop an active "prudential" role, and the financial system could find itself saddled with a variety of unnecessary regulations that undermined it even further.

Potentially most disturbing of all, however, is the danger that the EC's financial problems could lead it to inflate the European currency. Inflation would be a tempting option for the Community, not only because it generates substantial rewards, but also because the costs to the EC of inflation would be relatively low. Costs would be low because it would be difficult for the injured parties (that is, the public) to figure out who was responsible, and it would be relatively easy for the Commission to throw up a smokescreen that deflected the brunt of criticism.[18] Even if the Community could not avoid criticism over inflation, the costs would still be quite low, because the public lacks any easy means to penalize the EC or force it to pay attention to their concerns. There are also reasons to expect that inflation might rise over time. Taxes on the banks are likely to be politically less costly than inflation, and it would be in the Community's interest to exploit the politically less-damaging taxes first and only gradually increase its use of the inflation tax. In any case, there would come a point where it would become increasingly difficult to extract further resources from the financial system, and the EC would have to rely increasingly on inflation to finance its additional spending. So there is a very real possibility that Community's financial problems would not only lead to substantial inflation, but that they would also produce rising inflation as well.

U.S. Experience with the Federal Reserve System

Since the proposed European Federal Reserve system is modeled to some extent on the U.S. system, it makes sense to see what could be learned from the American experience. The Federal Reserve was established in 1914 to provide the U.S. banking system with protection against the periodic crises to which it was prone.[19] During

[18]Vaubel (1988) argued persuasively that one of the functions of the bureaucracy is to do the "dirty work" for elected politicians and take the blame for it. This would presumably be one of the functions of the new central bank. Such an arrangement makes sense from a public choice point of view, because it is more difficult for the public to penalize the bureaucrats than it is for them to penalize the politicians.

[19]There is considerable evidence that these crises were due to the inappropriate legal framework provided by the national banking system. For the destabilizing effects of these and other restrictions on the U.S. banking system, see Benston (1989), Dowd (1989a), and Selgin (1989).

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the early 1930s, however, the Fed's failure to provide that protection escalated relatively minor banking problems into waves of bank failures that had catastrophic effects on economic activity. As Friedman and Schwartz concluded (1963, p. 391):

> The leadership which an independent central-banking system was supposed to give the market and the ability to withstand the pressures of politics and of profit alike and to act counter to the market as a whole, these—the justification for establishing a quasi-governmental institution with broad powers—were conspicuous by their absence.

Recent work on the Fed's performance supports this assessment. Gorton (1986) examined the impact of the Fed by carrying out a counterfactual experiment to predict what would have happened if the pre-Fed regime had continued after 1914. His results indicate that although a panic would have occurred in December 1929, the "failure and loss percentages would have been an order of magnitude lower" (p. 29) in the absence of the Fed. This result suggests that there would have been a downturn in the early 1930s, but not the major disaster that actually occurred. Studying the period up to 1940, Miron (1989, pp. 290–91) found that "the variance of both the rate of growth of output and of the inflation rate increased substantially, while the average rate of growth of output fell, and real stock prices became substantially more volatile." He suggested that these conclusions hold even if the period of the Great Depression is ignored. Miron's analysis also suggested that these changes were not merely coincidental with the founding of the Fed but can be directly attributed to it. The record of the Fed since the World War II has not been much better. Output variability does not appear to have decreased (Romer 1986), and prices have become much less stable than they were earlier. The postwar era was also the period when the Fed shook itself free of the discipline imposed by the gold standard, and it used its newfound freedom to create an inflation that is unprecedented in U.S. peacetime history and that still shows no sign of ending.

The way in which the Fed has evolved since its foundation is also disturbing. It started off as a system of 12 autonomous Federal Reserve banks, with a Federal Reserve Board as a kind of liaison committee—much like the European central bank proposed by Delors. Subsequently, however, it evolved into a system in which "the Board in Washington is all powerful and the Federal Reserve Banks not much more than administrative units" (Timberlake 1986, p. 759). In the process, the Fed turned into an institution

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> whose every act is to enhance the power and prestige of itself and the government. Unless one can argue that what is good for the government is good for the general public, one cannot defend either the mutation of the Fed as it has occurred, or the Fed's continued existence as an all-powerful central bank. Its 70-year history as a bureaucratic institution confirms the inability of Congress to bring it to heel. Whenever its own powers are at stake, the Fed exercises an intellectual ascendancy over Congress that consistently results in an extension of Fed authority. This pattern reflects the dominance of bureaucratic expertise for which there is no solution as long as the [Fed] continues to exist [Timberlake 1986, p. 759].

Disturbing as this record is, several factors imply that a European Federal Reserve system would fare even worse. The U.S. Federal Reserve has generally had to deal with a federal government that was in reasonably sound fiscal shape, so the pressure to inflate for fiscal reasons was usually quite limited (a factor that has undoubtedly helped to keep American inflation lower than it would otherwise have been). As I discussed earlier, however, a European Federal Reserve would have to deal with a European Community whose financial position is anything but sound, and the fiscal pressure to inflate would be intense. A European Fed would also start off with no discipline against over-issue, such as that which the gold standard provided the U.S. Fed during its early days. This combination of fiscal pressure and the lack of any discipline against over-issue makes it all but certain that a European Fed would make the inflation record of its American counterpart look very good indeed.

Some Alternatives to a European Central Bank

Fortunately, there are superior alternatives to a European central bank. One is simply to persist with the EMS. The EMS is a currency bloc in which the member central banks agree to maintain the exchange rates of their currencies within relatively narrow bands. Should one country attempt a more expansionary monetary policy than the rest, then that country can maintain its exchange rate within the permitted bands only by running down its reserves of foreign exchange or by borrowing reserves from elsewhere. Its ability to maintain a more expansionary monetary policy is therefore necessarily limited, and the maintenance of its exchange rate in the long run requires that its monetary growth rate be compatible with the monetary growth rate pursued by its partners in the exchange rate system. Because the more conservative central banks can keep accumulating reserves at relatively little cost or inconvenience but the more expansionary ones would eventually run out of reserves and

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cease to be able to maintain their exchange rates, the pressure to adjust tends to be concentrated on the expansionary central banks, which then have to curtail their monetary growth. This implies that the system's monetary policy is effectively determined by the most conservative central bank, which therefore sets the monetary growth rate and forces its partners to restrict their monetary growth to rates that are compatible with its own.

The most conservative central bank in the EMS is the Bundesbank, and much of its conservatism seems to stem from the combination of its mandate to secure the value of the currency and its independence from the German Federal Government.[20] The asymmetry of the reserve pressure between comparatively expansionary central banks and the Bundesbank "imparts a helpful anti-inflation bias into the EMS whereby central banks that have a tough anti-inflation stance can put pressure on other, less disciplined central banks" (Currie 1989, p. 21). Thus, the EMS mechanism allows the weaker central banks to piggyback on the Bundesbank's superior inflation record and "borrow" its credibility. Currie (1989, p. 21) found that the EMS contrasts "with the way in which a centralized, coordinated monetary policy can operate, say within a full monetary union [with a European central bank]. For then, monetary policy will be determined by committee, and the outcome will tend to reflect the average, not the best, anti-inflationary policy." It follows that if a central bank is to run European monetary policy, inflation would be lower with the Bundesbank in control than with a new central bank whose policies would be bound to reflect compromises between those who want higher inflation and those who do not.

Although the EMS still allows for occasional currency realignments, it will become increasingly difficult to accommodate realignments as remaining capital controls are lifted across the EC. If monetary policies are not consistent across the EMS countries, then markets will have no difficulty anticipating the direction of the prospective exchange rate change and market operators will discount the currency that is expected to be devalued. In order to maintain asset market equilibrium, interest rates will then rise sharply in the country whose currency is to be devalued, and interest rates will keep rising until the devaluation takes place. As controls are lifted and capital becomes more mobile, even greater interest rate movements will be required to maintain asset market equilibrium and the

[20]One might also add another factor: the memory of previous 20th-century inflations in Germany.

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capital flows involved will become larger and more disruptive.[21] The relaxation of capital controls, therefore, will increase the pressure on the EMS to prevent exchange rate realignments altogether, and the other central banks will find their freedom of maneuver even more restricted than it already is. The present "soft" EMS would tend to evolve into a "hard" EMS in which exchange rates were fixed once and for all, and the Bundesbank's hegemony was even stronger than it already is.[22]

The drawback with this option is that we are still left with the avoidable monetary instability created by the Bundesbank itself. It is often overlooked that the Bundesbank's inflation record is good only in comparison with that of other central banks and that it is poor compared to what commodity standards have been able to achieve in the past. Perhaps the easiest way to eliminate the price instability created by the Bundesbank would be to tie one of the ERM member-currencies to a general price index.[23] The issuer of the currency would be legally compelled to buy and sell its currency for some redemption medium (e.g., shares) at an exchange rate determined by the general price index, and it would be impossible for the issuer to inflate the currency further. The new inflation-proof currency would then displace the D-mark as the "strong" currency in the EMS, and the Bundesbank would no longer determine EMS inflation. If they wished to maintain their EMS parities, the issuers of the remaining currencies would have to abandon their inflationary rates of monetary growth, and inflation would be eliminated throughout the EMS countries. The "hard" EMS would thus be transformed into a "super-hard," non-inflationary EMS that was free of the Bundesbank's own inflationary proclivities. Once the values of the EMS currencies had been tied down, the next logical, and highly desirable, step would be to remove any legal restrictions against the issue of currency and to abolish the existing central banks. The issue of "money" could

[21]These short-term interest fluctuations can be very considerable. See de Cecco and Giovannini (1989, p. 5). There is also empirical evidence that capital controls have helped to restrain interest rate fluctuations and capital movements (Giavazzi and Spaventa 1990).

[22]It seems that this German hegemony causes considerable resentment, especially in France. This resentment might help to explain why the French have been pushing for an international central bank in which German influence would be reduced. See Eltis (1989) and Goodhart (1989b).

[23]Dowd (1989b) elaborated on this proposal and suggested that the United Kingdom should introduce a monetary reform to stabilize prices and then announce the entry of the pound into the ERM.

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then be left entirely to the free market, which is best able to look after it.[24]

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[24]See White (1984), Selgin (1988), Dowd (1988, 1989a), and Glasner (1989).

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A European Central Bank: Some Unanswered Questions

Anna J. Schwartz

Unsettled Issues

I am in substantial agreement with the views that Kevin Dowd expresses. In answer to the question of the paper's title, I agree that Europe definitely does not need a Federal Reserve System. Had I written the paper, however, I would have asked several other questions either at the start or at the conclusion. One question is: Is there any reason to believe that a single central bank will, in fact, be established in Western Europe? If so, when? Is the time framework under discussion a few years or a half century?

Another question is: Are there preconditions for the establishment of a single central bank? In most national states, political unification preceded the formation of a central bank. Is political unification of the 12 member countries a prerequisite for creating one central bank for all? If that is required, is there any indication that the governments of the 12 members are ready to pool their foreign exchange reserves and renounce their own monetary powers in favor of a single central bank?

The Federal Reserve System was an adaptation of the model of a European central bank to fit the regional and populist character of the United States. It was established in an existing nation. A Federal Reserve System of Europe would bear no genuine resemblance to its presumed prototype. The analogy to the United States would apply if the European Community were a federal government of Western European states comparable with the U.S. federal government.

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The author is a Research Associate at the National Bureau of Economic Research and Past President of the Western Economic Association. From 1981 to 1982 she was Staff Director of the U.S. Gold Commission.

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If one thinks of the powers of a central bank, the main one it enjoys is that it can engage in open-market operations. Open-market operations are usually conducted in risk-free government securities. Will these securities be the issues of a federal government of Western Europe? If not, which assets will the central bank acquire for its portfolio? What will happen to the portfolios of existing central banks? Will the monetary base the new central bank can create and destroy be a new currency, in that respect similar to the introduction of the Federal Reserve note? Enough of my questions, however. Let me turn to the content of the paper.

Approaches to European Monetary Union

Before assessing the arguments for a European central bank, Dowd first discusses the flaws in the proposal for a European monetary union that would substitute one new currency for existing individual national currencies. He examines the difference between a monetary union with distinguishable national currencies linked by fixed exchange rates and a monetary union with a common currency.

In the case of a monetary union with fixed exchange rates, the benefit it affords is the elimination of exchange rate risk. However, if the currencies that are linked are not all members of the same optimum currency area, there is a cost. Fixing European exchange rates in this view may not yield a net gain. Let me add that defining an optimum currency area is not a simple exercise.

In the opposite case of a monetary union with a common currency, a reduction in transactions costs, which Dowd estimates as equal to one-tenth of one percent of GNP, is the benefit. Human and mechanical costs would be imposed in adjusting accounts to a new currency unit—a more radical change in his view than Britain experienced in 1971 when it adopted decimalization. So adopting a common currency may also not yield a net gain.

Dowd's conclusion is that free competition among currencies should determine which form of monetary union should be chosen. He says that the resolution of the question would come either by pressure from the public on issuers to peg their currencies or else by a demonstration by the public of preference for one national currency among competing national currencies circulating in each country.

However, monetary union in the sense of pegged exchange rates does not require free competition among currencies. It is not obvious that first the snake and then the European Monetary System (EMS) were a response to public pressure to peg currencies any more than the Plaza Agreement or the Louvre Accord to coordinate official

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intervention in foreign exchange markets was such a response. These were decisions by policymakers. I am not aware that the public's wishes were consulted.

On the other hand, a monetary union with a single currency that might emerge from a competition among 12 national currencies would impose huge information costs on the public in arriving at its final choice. I suggest that Dowd should first have dealt with the magnitude of information costs for money holders in choosing one from a dozen competing national monies. If adjustment to one new money imposes large human and mechanical costs, as Dowd argues, then surely the costs of adjustment to singling out one of multiple competing monies would be far greater.

In principle, I believe money holders should be free to choose to hold money denominated in different national units. But is this the royal road to achieve monetary union? Money holders seem to exhibit enormous attachment to the national money with which they customarily conduct transactions, even when that currency is far from stable. Barring hyperinflation, what is the evidence that money holders will readily shift to a currency other than their usual national one? Is this a reason that the ECU has not taken off as a private transactions money?

Price Stability under a European Central Bank

Dowd makes the important point that the object of monetary integration is to achieve stable monetary conditions. To quote him, "Price stability is the central issue, and monetary union per se is secondary in comparison."

He therefore asks: What is the prospect that a European central bank would, in fact, achieve stable monetary conditions and hence price stability? The proposal for a European central bank makes no provision for a rule binding the bank to provide steady, noninflationary money growth. Instead, monetary policy is directed to achieve additional objectives, other than price stability, that are not within the competence of any central bank and only distract it from the single objective of price stability that is within its competence. Moreover, the bank's independence is compromised by making it subservient to politicians in the Council of Ministers and the European Parliament.

Because the European Community does not exercise control over its expenditures, Dowd rightly argues that it will seek to increase its resources by drawing on the seignorage that money creation by a European central bank would give it. He estimates that if the Euro-

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pean central bank passed on to the Community seignorage revenue equal to 0.2–0.3 percent of GDP, roughly the present level at member countries, Community resources would increase between 17 and 26 percent. But that is not the end of the story. The Community could also press the new central bank to raise reserve requirements, thus increasing the demand for monetary base and increasing Community resources by around 60 percent thanks to higher seignorage. Pressure on the central bank for a higher inflation rate would increase seignorage revenues further. In addition the Community could seek subsidized loans from the central bank—with the effect of permitting Community spending to proceed unchecked. So there is reason to be suspicious that monetary and price stability will be an overriding concern of a European central bank.

Dowd foresees incentives for the Community and the central bank to undermine the efficiency of the European financial system by taxes that would wipe out the offshore market in Europe and by unnecessary regulation. When it would become difficult to extract further resources from the financial system, the European Community might well rely increasingly on inflation to finance growth in its spending.

He then asks whether the record of Federal Reserve experience is reassuring and answers in the negative, on the basis of its deflationary actions in 1930–33 and its inflationary actions in the past quarter century. He concludes that a European central bank would fare even worse, on the ground that the fiscal position of the U.S. federal government until recently has been reasonably sound—this observation may be dubious—which is not true of the European Community. Therefore, the inflation record of the European central bank is likely to be worse than that of the Fed.

Monetary Policy under the EMS

Dowd suggests that continuation of the existing Exchange Rate Mechanism (ERM) under the EMS would produce a monetary policy that would outclass the monetary policy of a supposed European central bank. His reason is that the EMS's monetary policy is determined by the most conservative central bank—the Bundesbank. European monetary policy set by the Bundesbank, he concludes, would lead to lower inflation than if set by a new central bank compromising between those on its board who want higher inflation and those who do not.

Attributing the superior performance of the EMS to the German Dominance Hypothesis has been challenged in a recent article by

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Michele Fratianni and Juergen von Hagen (1990). On the basis of empirical tests, the authors reject the interpretation of the EMS as dominated by the Bundesbank. They find that EMS countries responded to common shocks emanating from tighter U.S. monetary policy in the early 1980s and the decline in oil prices. Only Italy's monetary policy was responsive to Germany's. On the other hand, other EMS monetary policy impulses had no lasting effect on the Bundesbank's policy. German independence, they assert, is not the same as German dominance. Capital and exchange controls and realignments allow other EMS members to diverge from German monetary policy if they wish.

Dowd has countered the last point. He notes that as remaining capital controls are lifted, the arrangement will no longer be able to accommodate exchange rate realignments. Markets will anticipate the direction of a prospective exchange rate change if one country gets out of line. To maintain asset market equilibrium, interest rates will rise sharply in the country whose currency is to be devalued, and capital flows will become larger and more disruptive. To avoid this outcome, exchange rates in the EMS will then really become fixed, and Dowd anticipates that the Bundesbank's hegemony will, contrary to the theme of the Fratianni-von Hagen article, become even stronger.

The positive scenario that Dowd pictures assumes that financial liberalization will tie the hands of central banks. Central banks, however, have a long history of responding to undesired international capital flows by closing their financial markets and resisting exchange rate changes that the market may demand. So such an eventuality is not unthinkable.

An Inflation-Free Monetary Regime

Finally, Dowd discredits the inflation performance of the Bundesbank compared to what commodity standards achieved in the past. He proposes linking the ERM-member currencies to a general price index. The issuer would redeem the currency in some redemption medium, and the new inflation-proof currency would displace the D-mark as the strong currency in the EMS. Issuers of the remaining currencies would have to abandon inflationary monetary policy. The values of EMS currencies would thus also become inflation-proof.

The final step would be the removal of restrictions on the issue of currency by private firms and the abolition of existing central banks. Dowd's vision is certainly far beyond 1992.

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In conclusion, I share Dowd's skepticism that establishing a European Federal Reserve System will contribute to the welfare of the European Community. My skepticism, however, also extends to the implicit assumption that in the foreseeable future such an institution will evolve.

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Why Does Europe Want a Federal Reserve System?

George A. Selgin

Unlike the authors of the Delors Report, Kevin Dowd does *not* think that Europe needs a Federal Reserve System. Those who know my work will not be surprised to see that I share Dowd's view. Indeed, I have argued at length (Selgin 1988) that the United States itself does not need a Federal Reserve System.

Rather than reiterate Dowd's arguments, I wish to address a question which Dowd only touches upon. That question is: Why does Europe *want* a Federal Reserve System? Economists, with few exceptions (Dowd among them), seem to take for granted that governments seek more centralized control over monetary affairs in order to achieve greater monetary stability. A European Federal Reserve System would, its proponents claim, help European governments stabilize prices and other nominal magnitudes by allowing them to "coordinate" their monetary policies.

To be blunt, this view of the "objective function" of European governments and their monetary authorities is extremely naive. It demonstrates an appalling neglect of the history of monetary centralization, while also turning a blind eye toward the insights—common sense, really—of public choice theory.

Proponents of a European central bank will deserve to have their arguments taken seriously only if they consider alternatives to the dubious premise that governments are primarily concerned with the maximization of social welfare. This is actually being generous to them in light of the fact that arguments for central banking are weak even granting the assumption of benevolent politicians and bureaucrats.[1]

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The author is Assistant Professor of Economics at the University of Georgia. He thanks Richard Timberlake and Lawrence H. White for their comments.

[1]See Dowd (1989), Selgin (1988, 1989), and White (1989).

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A Political Economy of Monetary Centralization

A cursory review of monetary history shows that government control of money, and the growing institutionalization and centralization of that control, has always included among its objectives the furthering of governments' powers to extract revenue from the public through seignorage and inflation. By eliminating competitors in the market for currency, government monetary authorities reduced the elasticity of demand for their own currencies, thereby enhancing their bureaucratic powers as well as their revenues from money supply. In ancient times, as noted by Glasner (1989, p. 30), the control of coinage by governments "had little to do with [monetary efficiency] and everything to do with political power." Later on, identical motives encouraged governments to interfere with the banking industry. However, instead of nationalizing banks altogether, most governments were content to establish privileged private banks of issue, which the governments could then exploit as sources of revenue. This strategy was more efficient than nationalization insofar as banking, unlike minting, required "considerably more business acumen than governments typically possess" (Glasner, p. 33). At the same time it spared governments the trouble of having to collect and coordinate smaller loans from a number of independent, private banks of issue. The circumstances leading to the establishment of the Bank of England, as recounted by Macauley (quoted in Glasner, pp. 35–36), were typical:

> In old times when the Treasury was empty, when the taxes came in slowly, and when the pay of the soldiers and sailors was in arrear, it had been necessary for the Chancellor of the Exchequer to go hat in hand, up and down Cheapside and Crowhill, attended by the Lord Mayor and by the Alderman, and to make up a sum by borrowing a hundred pounds from this hosier, and two hundred pounds from that ironmonger. Those times were over. The government, instead of laboriously scooping up supplies from numerous petty sources, could now draw whatever it required from an immense reservoir, which all those petty sources kept constantly replenished.

Better still, from the government's point of view, was the fact that, through suspension of convertibility and inflation, it could now command resources well in excess of any it might have garnered without the benefit of monetization.

The Bank of England was only the earliest instance of a bank currency monopoly aimed at achieving *fiscal*—not monetary—ends.[2]

[2]Private (non-joint-stock) banks were at first allowed to issue notes, and the Bank of England did not compete with them outside of the vicinity of London. They had gradually to relinquish this privilege in consequence of the Bank Act of 1844.

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The subsequent spread of central banking was based in part on identical objectives. The treatment of privileged banks of issue as institutions having unique *monetary* responsibilities emerged as an afterthought, partly in consequence of monetary instability brought about by the privileged institutions themselves. The fiscal objectives of central banking never subsided, however—a fact attested to by the performance of central banks throughout the present century, in Europe as well as elsewhere.

The Fed Is No Exception

The U.S. Federal Reserve System, which some view as a role model for Europe, is no exception to the rule of central banks being a by-product of governments' eager quest for funds. However, the connection in the United States between central banking and fiscal appetite was indirect. The Fed was in part a *direct* response to the failure of the prior national currency system, but the National Currency Acts of 1863 and 1864 were themselves products of wartime fiscal desperation. The 1863 act authorized the establishment of national banks, empowered to issue notes backed by Federal government bonds. The express purpose was to create a new market for Union government debt. In 1865 the government, disappointed by the demand for national bank charters, imposed a prohibitive 10 percent tax on notes issued by state chartered banks. The tax was meant to force more state banks into the national system, as a further boost to bond sales.

As an emergency fiscal measure, the National Currency Acts were a failure: The demand for national bank charters remained sluggish until the last year of the war (the 10 percent tax on state bank notes not having come into effect until mid-1866). But this failure was hardly the acts' worst shortcoming. Far more serious was their long-term monetary consequence, which was to link the currency stock to the stock of government debt instead of allowing it to adapt to the wants of the public. Throughout the 1880s and early 1890s, as government debt was retired, the stock of national bank notes shrank. This contraction of national bank notes made the economy increasingly vulnerable to seasonal shortages of currency and credit, which occurred with great severity in 1884, 1893, and 1907. The last panic especially supplied a rationale for the creation of the Federal Reserve System. Rather than having been a response to market failure, as is often claimed in textbooks and Federal Reserve publications, the Fed was largely a response to perverse consequences of previous government failure in its attempts to exploit the banking industry.

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Moreover, the Fed was not even a good response to the problems of inelastic currency supply and panics. A far better solution would have been to abandon legal restrictions on note issue and on branch banking. This solution would have created a banking system similar to Canada's at the time, only on a much vaster scale. This deregulatory solution was, unfortunately, precluded by a powerful anti–branch banking lobby. It was, furthermore, incompatible with the government's fiscal motives, including its desire to retain a captive market for federal bonds. Finally, it was contrary to the thinking of interested experts who viewed European central banks—especially the Bank of England and the Reischbank—as the acme of "scientific" monetary management. So the United States headed down the road to currency centralization, head-on into its most disastrous banking crisis (which Canada neatly avoided).

A Wheel Turned Full Circle

The wheel has now come full circle. In 1913 the United States looked to Europe for a "model" banking system when it might have looked to its northern neighbor for a superior, deregulated currency system. Today Europe is looking toward the United States, when it ought to be thinking of deregulation and free trade in currency as the sole reliable means for achieving monetary stability and unity. Why such persistent error? The reason, I believe, is governments' desire to extend—and never to relinquish—their monetary powers and perquisites, not in order to secure monetary stability, but to enhance the power of politicians and bureaucrats and to serve their fiscal ends. Power, in other words, overshadows stability as an objective of monetary control. As De Jouvenel has observed (1962, p. 4), "the struggle to magnify itself is Power's essense."

In making these obvious points I do not pretend to offer any precise, alternative specification of monetary authorities' objective function. I merely wish to cast doubt on the simplistic expectation that a European central bank would "maximize a weighted average of the social welfare function of all individual countries" (Canova and Diaz 1989, p. 91). Although the history of monetary centralization offers no precise, alternative specification—central banks do not always maximize seignorage, either—it suggests strongly that a European "Fed" would serve, not to discipline irresponsible national monetary authorities, but rather to force more responsible nations to abandon their relatively conservative monetary policies in favor of a policy of uniform inflation for all Europe. As Dowd correctly points out, a European central bank would eliminate competitive constraints

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against inflation (e.g., the loss of foreign exchange reserves by relatively inflationary central banks to relatively conservative ones). A European bank could, in principle at least, operate as a revenue-maximizing monopoly, enjoying a highly inelastic demand for its currency and unconstrained by inter-European reserve losses.

Public Welfare or Public Choice?

Which (extreme) view of the likely consequences of European monetary cooperation gets closest to the truth? Is it the pessimistic public choice view or the optimistic public welfare view? Do European officials want their own "Fed" to prevent inflation or to enable themselves to profit from more of it? If the former, then why is it that Germany rather than Greece or Italy is most frequently criticized for refusing to coordinate its monetary policy with the policies of other EMS members? Is it because Germany's currency is not stable enough? Hardly. Germany is criticized precisely because its currency is too stable—because the policies of the Bundesbank too often interfere with other European central banks' ability to inflate their currencies with impunity and without losing foreign-exchange reserves. Why should we expect the very authorities who are presently Germany's strongest critics to plead for monetary stability and conservatism once they are appointed members of the Board of Governors of a European Fed?

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Some Empirical Findings on Differences Between EMS and Non-EMS Regimes: Implications for Currency Blocs

Allan H. Meltzer

> Never in history was there a method devised of such efficacy for setting each country's advantage at variance with its neighbors' as the international gold . . . standard. . . . The part played by orthodox economists . . . has been disastrous. . . . For when in their blind struggle for an escape, some countries have thrown off the obligations which had previously rendered impossible an autonomous rate of interest, these economists have taught that a restoration of the former shackles is a necessary first step to a general recovery.
>
> —John Maynard Kenyes (1936, p. 349)

Introduction

Substitution of permanently fixed exchange rates for the gold standard brings Keynes's statement up to date. Many economists, and others, now advocate the establishment within the European Community (EC) of a monetary and economic union based on rigidly fixed exchange rates, complete freedom of capital movements, and the absence of barriers to trade and to the movement of goods and labor across national boundaries.

The advantages of a system of permanently fixed exchange rates with free capital movements are well known and, nowadays, often repeated. If the system is credible, then the costs of information and transactions are reduced for international exchanges. Deficit finance must be restricted (Brunner and Meltzer 1976), and country or regional policies must necessarily be harmonized, at least to the degree required by international capital movements that are

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The author is University Professor and John M. Olin Professor of Political Economy and Public Policy at Carnegie Mellon University and Visiting Scholar at the American Enterprise Institute.

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unrestricted by exchange controls. Under such a system, harmonization reduces uncertainty about individual country policies, and the variability of real exchange rates is reduced. In addition, Mussa (1986) has shown that bilateral, *ex post*, real exchange rates are less variable under fixed (but adjustable) exchange rates.

Keynes's statement warns, however, that the reduced variability of real exchange rates may not add and may even reduce welfare. Again, the reasons are well known. Changes in nominal exchange rates facilitate adjustment, particularly when prices and nominal values are slow to adjust. Further, the greater variability of real exchange rates under fluctuating rates may reflect the sluggish adjustment of prices that both increases the variability of real exchange rates and delays the adjustment of real wages and production costs. If exchange rates are fixed permanently, then more of the adjustment may be borne by quantities of goods or services produced or consumed as well as by quantities of factors employed. Typically, labor and product markets are singled out in the case of exchange rates as likely to be more variable under fixed than under flexible rates. Keynes, and many others, presumed that changes in the exchange rate act as shock absorbers, adjusting relative prices and real wages to external or internal shocks. Critics of fluctuating rates and some proponents of fixed rates claim the opposite, that fluctuating exchange rates increase variability of prices, output, or other variables.

The problem is an old one. The history of economics shows that many economists have been concerned by the variability of economic activity and prices in a fixed exchange rate system. Jevons, Marshall, Fisher, both Frank and Benjamin Graham, Friedman, and Keynes are a sample of well-known economists who offered proposals for bimetallism, commodity standards, fluctuating exchange rates, and other means of reducing the variability in consumption or production under a gold or other fixed rate standard. The problem arises under fixed exchange rates because shocks to output require the adjustment of real interest rates, aggregate demand, and the domestic price level sufficient to maintain the nominal exchange rate. A reduction in demand by one country lowers the exports of all countries. If the country experiencing the shock is a relatively large importer, then the shock is transmitted to other countries, raising or lowering their demand, output, prices, and employment.

The Bretton Woods system sought to reduce this disadvantage of a fixed exchange rate system in two ways. First, surplus countries were supposed to lend to deficit countries when the deficits arose from transitory shocks. This permitted the deficit country to more

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nearly maintain its spending and employment. Second, the adjustment of exchange rates was to be reserved for permanent shocks. Thus, shocks to members of the system were to be reduced and the variability of output, prices, and employment was to be lowered for all countries while retaining some of the advantages claimed for a fixed rate system.

In practice, it was difficult to distinguish between permanent and transitory shocks. Countries were not able to establish when exchange rate changes were preferable to other types of adjustment, and they compounded the problem by failing to agree on whether the United States or other countries should adjust par values. The major problem of the Bretton Woods system, however, and the one that brought it to an end, was the failure to specify a rule for money creation. In practice, the system required the United States to maintain stability of prices and nominal values, and it obligated other member countries either to accept dollars at par, thereby importing the U.S. inflation rate, or to revalue their nominal exchange rates. When the inflation problem persisted, major countries chose revaluation and, eventually, fluctuating exchange rates against the dollar. The system failed primarily because of the absence of rules for regulating the quantity of money and the adjustment of parities.

The breakdown of Bretton Woods illustrates a broader proposition that is neglected in many discussions of monetary union. The proposition, one of the folk theorems of international finance, states that fixed exchange rates, price stability, and freedom of capital movements are not compatible with independent monetary policy by member countries. The proposition recognizes that a fixed exchange rate system cannot achieve both price and exchange rate stability without some restriction on the aggregate quantity of money in the system. In practice, capital mobility is often restricted in fixed exchange rate systems to maintain the fixed rate. The European Monetary System (EMS) is not exceptional in this respect.

A basic function of money and a monetary system is to reduce the costs of acquiring information and transacting. Variability of relative prices and exchange rates is one of the principal determinants of these costs; information costs increase with variability (Brunner and Meltzer 1971). Inflation, particularly a variable rate of inflation, also raises the cost of acquiring information. Mussa's (1986) data suggest that a fixed exchange rate system may lower information costs by reducing variability of real exchange rates, but Mussa did not investigate whether systematic differences in the variability of other relative prices or quantities work in the opposite direction.

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The welfare problem is complicated, however. There are benefits to the variability of relative prices as well as costs. A country faced with external shocks, common to all countries, may have lower costs of adjustment because relative prices and other endogenous variables adjust more quickly to the common shocks. If shocks are frequent, then higher variability could contribute to welfare by avoiding or reducing the risk of recessions. The long expansion of the 1980s may be the result of the increased flexibility of real exchange rates between major currencies under fluctuating rates.

Two types of comparison are used here to examine the variability of unemployment, inflation, and measures of relative price and real exchange rate variability under fixed and fluctuating exchange rates. The first compares the years of Bretton Woods to the years of fluctuating exchange rates. These data do not hold constant the many factors that differ between periods. The second compares countries that are in the European Monetary System and those that are outside the system. My purpose is exploratory—to use some available data to learn about variability and the costs of information under fixed and fluctuating exchange rates. This analysis differs from work by Mussa (1986), Belongia (1988), Grilli and Kaminsky (1988), and Fratianni and von Hagen (1990) by focusing more on multilateral exchange rates. The results are preliminary, but I believe they have implications for current discussions of currency blocs and a European Monetary Union.

Experience under Fixed and Fluctuating Rates

If fluctuating exchange rates operate as a shock absorber for the economy, then shocks to the economy under a fixed exchange rate regime are borne elsewhere. Ideally, we would run a controlled experiment in which two economies that differ only in their exchange rate regimes are subject to the same shocks. Lacking experimental data, we must rely on weaker types of evidence. This section compares periods of fixed and fluctuating exchange rates and the performance of EMS and non-EMS countries. The data used are from the OECD.[1] All variables are available quarterly except unit labor costs, which are available semi-annually. Additional details are presented in the data appendix.

One problem is that "pure" systems are rare. Bretton Woods and the European Exchange Rate Mechanism (ERM) were designed as

[1]*Main Economic Indicators Historical Statistics, 1960–79,* supplemented by the May issue for odd years in the 1980s. Unit labor costs are the exception. These data are from OECD's disk, June 1988 edition.

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systems of fixed but adjustable exchange rates. Countries devalued or revalued instead of adjusting money stocks and price levels as required in a system of permanently fixed exchange rates. By adjusting exchange rates, countries avoided some of the variability of real variables that would be required by the monetary union that is now proposed. Hence, the comparison between countries in the EMS and countries with fluctuating exchange rates may be biased in favor of the EMS.[2] Nevertheless, members of the EMS are considered here to have quasi-fixed exchange rates, since the largest part of their trade is inter-country trade within the European Community subject to fixed but adjustable rates. The data in Mussa (1986) suggest that this is a relevant distinction; bilateral, *ex post* real exchange rates are less variable for EMS members than for nonmembers. Ireland poses a problem because a significant share of its trade is with the United Kingdom, which did not join the ERM until October 1990. Since the late 1970s, Sweden, Norway, and Finland have targeted a nominal effective exchange rate based on a trade weighted basket.

The first comparison is between rates of decline in unemployment. Most countries reduced inflation during the 1980s by restricting money growth. If money wages and other money costs of production adjust slowly, then factor unemployment increases for a time. If fluctuating exchange rates buffer the effect on productive factors, then the rate of decline may be lower under fluctuating exchange rates or the rise in unemployment may be smaller. Alternatively, the greater variability of real exchange rates in a fluctuating rate regime may be a cause of fluctuations in output and changes in employment. Table 1 looks at these alternatives by comparing the annualized rate of decline in the unemployment rate for a sample of countries. The annualized rate of decline is calculated from the quarter of peak unemployment to the fourth quarter of 1988.

The data suggest that the average unemployment rate was higher and declined more slowly in the six EMS countries examined than in the eight non-EMS countries. When Ireland and Japan are removed from the two samples, the difference in mean unemployment rates becomes much smaller, but the difference in the rates of decline in unemployment remains economically meaningful. In the three countries that are closest to "pure" floaters—the United States,

[2]Austria maintains a fixed exchange rate with Germany, so it is included with the EMS countries. Spain joined the EMS in 1989, so it is included with the non-EMS countries. The ERM is the system of adjustable rates, but the system is usually referred to as the EMS, and I follow that practice. The United Kingdom was not a full-fledged member of the EMS during the 1980s; it held only an observer status, and it was not part of the ERM. Consequently, it is classified with the non-EMS countries in this study.

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TABLE 1

RATE OF DECLINE IN UNEMPLOYMENT DURING THE 1980S

	Maximum Unemployment		Percent Annualized Rate of Decline to 1988/4	
Non-EMS Countries				
Canada	12.7		8.0	
United States	10.7		11.0	
Japan	3.0		13.8	
Australia	10.3		7.3	
Finland	7.7		5.5	
Spain	22.2		6.2	
Sweden	3.8		17.3	
United Kingdom	13.0		13.6	
Mean for 8 countries[a]		10.4		10.3
Excluding Japan		11.5		9.8
EMS Countries[b]				
Austria	7.5		16.2	
Belgium	19.3		8.7	
Denmark	10.7		2.7	
Germany	9.4		1.8	
Ireland	23.6		4.9	
Italy	12.3		2.6	
Mean for EMS		13.8		6.2
Excluding Ireland		11.8		6.4

[a]For the United States, Japan, and the United Kingdom—relatively "pure" fluctuating rate countries—the mean rate of decline is 12.8.
[b]France is omitted; its maximum is in 1987, and the rate of decline to 1988 is small.

Japan, and the United Kingdom—the rate of decline in unemployment is twice the rate in the EMS countries. The differences are consistent with the proposition that exchange rate fluctuations buffer the labor market and speed the adjustment to real and nominal shocks.

Evidence of this kind is suggestive, but it cannot be decisive. Differences in the timing and magnitude of disinflationary policy, in the response to declining oil prices, in types of policy, or in structural features of the economies may influence the result. Average rates of unemployment differ across countries for many reasons, including differences in measurement. The measured difference in maximum unemployment rates may be misleading.

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The choice of monetary standard may affect the variability experienced in different countries and the risks that households and businesses face. Table 2 compares the relative coefficients of variation for periods with fixed and fluctuating exchange rates.[3] If fluctuating rates reduce variability or substitute variability of real exchange rates for other sources of variability, then variability should be lower in the fluctuating exchange rate period than under Bretton Woods. Also, countries in the EMS after 1975 should experience higher variability of prices or real variables during the 1970s and 1980s than countries outside the system of quasi-fixed rates. If fluctuation in real exchange rates is a cause of variability, then these conclusions would be reversed.

The choice of period is a problem. The shift to fluctuating exchange rates in 1973 occurred at a time of rising inflation. Variability appears to have been relatively large in the first 8 to 10 years of fluctuating rates. Some of the increased variability in EMS and non-EMS countries resulted from policies to reduce inflation; some of the variability reflects the oil shocks of the period. Table 2 shows that variability during 1985–88 was substantially lower in all countries than during 1973–88. Hence, the 1985–88 period is included for comparison. An additional problem arises from sample selection. Countries are subject to common shocks, but not all shocks are common. Because of this, variability between countries may differ.

The mean values at the bottom of Table 2 show that the variability of real interest rates is lower and the variability of unemployment rates is higher in the EMS than in the non-EMS countries under the Bretton Woods system. The variability is lowest in the countries that float most freely. At the time, most countries had fixed exchange rates.

Despite the problems and qualifications, some conclusions can be drawn from the data presented in Table 2. First, there is no evidence that real interest and unemployment rates are systematically more variable in EMS than in non-EMS countries after 1973. Second, price-level variability is approximately the same in EMS and non-EMS countries in each of the periods, but it is marginally lower in countries with fluctuating rates. Third, no general conclusion emerges about variability under the different regimes. Variability was generally highest in the non-EMS countries for 1973–88, but variability was often lower in these countries during 1985–88. The

[3]Coefficients of variation remove the influence of mean values that differ across countries and over time. This removes any systematic effect of the choice of regime on mean values, so it is not an innocuous choice.

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TABLE 2

COEFFICIENTS OF VARIATION, QUARTERLY UNEMPLOYMENT, INTEREST RATES, AND PRICES

Unemployment	Canada	U.S.	Japan	U.K.	Finland	Sweden	Australia	Austria	Belgium	Denmark	Germany	Ireland	Italy
1960/2–1970/4	0.25	0.22	0.11	0.22	0.47	0.22	0.14	0.48	0.27	N	0.62	0.14	0.18
1973/1–1988/4	0.23	0.20	0.20	0.47	0.33	0.27	0.35	0.55	0.38	0.36	0.44	0.32	0.25
1985/1–1988/4	0.11	0.11	0.06	0.17	0.17	0.25	0.06	0.23	0.08	0.07	0.03	0.02	0.07
Real Long-Term Interest Rates							France						
1960/2–1970/4	0.47	0.59	N	0.62[a]	1.72	1.15	0.34	N	0.56	0.80	0.68	N	1.50
1973/1–1988/4	1.04	1.64		3.40	7.71	1.94	0.41		1.04	0.52	0.52	2.63	6.84
1985/1–1988/4	0.16	0.30		0.70	0.86	0.45	0.37		0.22	0.31	0.35	0.38	0.30
Price Level													
1960/2–1970/4	0.09	0.09	0.15	0.10	0.16	0.11	0.12	0.11	0.10	0.15	0.08	0.14	0.12
1973/1–1988/4	0.33	0.29	0.15	0.40	0.38	0.37	0.39	0.21	0.27	0.33	0.16	0.48	0.55
1985/1–1988/4	0.05	0.04	0.01	0.05	0.05	0.06	0.04	0.02	0.02	0.05	0.01	0.04	0.06

	Fluctuating			Fixed		
Mean Values	Unemployment	Real Rates	Prices	Unemployment	Real Rates	Prices
1960/2–1970/4	0.23	0.91	0.12	0.33	0.78	0.12
1973/1–1988/4	0.29	3.15	0.32	0.38	1.99	0.34
1985/1–1988/4	0.13	0.49	0.04	0.08	0.32	0.03

N = Not available.
[a]Series starts 1963/1.

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three floaters often have lowest variability of prices and unemployment, but the differences are not large. Fourth, country-specific differences appear to dominate. Japan has relatively low variability of prices and unemployment, and Finland has relatively high variability of unemployment and interest rates. Austria, which pegs its currency to the German mark, also has a relatively variable unemployment rate. French real interest rates show lower variability than other countries until 1985–88. A main reason for the change may be France's recent relaxation of exchange controls, credit controls, and other restrictions. Many of the restrictions substitute for interest rate changes.

Next, I turn to a smaller group of countries to consider a broader set of variables. Table 3 compares relative variances of several variables under fixed and fluctuating exchange rates in large countries. A number greater than unity in the table indicates that variability increased under fluctuating rates. The data suggest that variances increased markedly under fluctuating exchange rates in all countries when the entire fluctuating rate period is included. This conclusion is reversed, for countries other than the United Kingdom, if 1985–88 is used as the fluctuating rate period. The differences are not the result of changes in mean value. Similar conclusions are reached for real

TABLE 3

RELATIVE VARIANCES OF CHANGES DURING FIXED AND FLUCTUATING RATE PERIODS[a]

	Canada	U.S.	Japan	U.K.	France	Germany
			ALL DATA $\frac{1973–88}{1960–70}$			
Real Stock Prices	1.3	1.6	135.1	4.4	0.9	1.2
Inflation[b]	3.0	3.9	3.0	9.2	3.3	1.0
Short-Term Real Rates[b]	5.5	14.4	1.7	15.4	3.0	1.5
Unit Labor Costs	159.0	125.0	14.0	293.0	42.0	14.0
			RECENT DATA $\frac{1985–88}{1960–70}$			
Real Stock Prices	0.4	1.1	107.2	1.8	0.4	0.6
Inflation[b]	0.3	0.8	1.0	2.0	0.9	0.6
Short-Term Real Rates	0.3	0.9	0.8	4.3	0.3	0.4
Unit Labor Costs	0.8	0.8	0.6	0.4	0.1	0.4

[a]Periods are as in Table 2.
[b]Based on quarterly rate of price change.

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stock prices and unit labor costs if the comparison is between relative coefficients of variation. Table 4 shows these computations.

Comparing data for the two EMS countries and the four non-EMS countries shows that variability rose less on average in the EMS countries than in the non-EMS countries following the breakup of Bretton Woods. Restricting the fluctuating exchange rate period to more recent data reverses the direction of change in variability but does not affect the comparison between EMS and non-EMS countries; for the four measures observed, variability is lower on average during the fluctuating exchange period than in the years of Bretton Woods, but the decline in variability is greater for EMS countries than for non-EMS countries on average. At least one of the non-EMS countries, however, has relative variability comparable to the relative variability of the EMS countries. This suggests again that policy actions or other country-specific factors may dominate the results.

Unanticipated Changes

The data considered in the previous section do not distinguish between anticipated and unanticipated changes. Unanticipated changes may be more costly to individuals and society. One reason is that information costs differ; the duration of a fully anticipated change may be known or predictable with reasonable accuracy. Examples are a tax rule that provides a credit only during recessions or a monetary rule that adjusts adaptively to past changes in output or monetary velocity. Unanticipated changes are subject to greater

TABLE 4

RELATIVE COEFFICIENTS OF VARIATION IN REAL STOCK PRICES (QUARTERLY) AND UNIT LABOR COSTS (SEMI-ANNUALLY)

	Canada	U.S.	Japan	France	Germany	Spain	U.K.
Real Stock Prices[a]							
1960/2–1970/4	.14	.14	.14	.23	.22	.18	.14
1973/1–1989/1	.18	.24	.65	.37	.29	.89	.38
1985/1–1989/1	.09	.16	.29	.21	.14	.34	.16
Unit Labor Costs							
1964/1–1970/2	.06	.05	.04	.17	.08	.08	.09
1973/2–1989/2	.29	.26	.07	.31	.14	.44	.35
1985/1–1989/2	.04	.04	.02	.01	.03	.07	.04

[a]Ratio of index numbers for stock prices and CPI base 100 in the four quarters of 1985; the GNP deflator is used for Japan.

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uncertainty about duration and impose larger costs of acquiring information. At the time of occurrence it will generally not be reliably known whether a given shock is persistent or transitory or whether it will be followed by a sequence of changes in the same direction. Unanticipated shocks that temporarily change the price level, the exchange rate, output, or other variables cannot be readily distinguished at the time of occurrence from persistent changes in the level of these variables or persistent changes in their rates of change. Additional observations are required before there is sufficient evidence about the duration of the change in level or rate of change. The number of observations required for judgment depends on the relative variances of the permanent and transitory components of the underlying series.

Meltzer (1986) and Meltzer and Robinson (1988) used a Kalman filter to separate anticipated and unanticipated changes and, for unanticipated changes, to separate permanent and transitory shocks to levels and growth rates under different monetary regimes.[4] Meltzer (1986) analyzed quarterly data or unanticipated changes for Canada, Germany, the United Kingdom, and the United States under the Bretton Woods system for 1960/1–1971/3 and under fluctuating rates for 1971/3–1984/4. Meltzer and Robinson (1988) analyzed annual data on unanticipated changes for the years of the international gold standard (1870–1913), Bretton Woods, and fluctuating rates; the sample of countries includes Denmark, Germany, Italy, Japan, Sweden, the United Kingdom, and the United States.

These studies found that the variability of unanticipated changes differs with regimes. The variability of unanticipated output was usually highest under the gold standard, although there were some exceptions. The United Kingdom experienced the lowest variability of the level and growth rate of unanticipated values under the gold standard and the highest under the fluctuating rate regime. The results for Japan are opposite, with the variability of the output level and growth rate being lowest under fluctuating rates and highest under the gold standard. For most of the other countries studied, the differences in unanticipated variability in the two postwar regimes are relatively modest, and variability is lower than under the gold standard. Annual data on unanticipated prices and rates of price change under the three regimes show a mixed pattern. Variability of unanticipated changes in price level and maintained inflation is highest for some countries under the gold standard (Japan, Germany, Sweden). For others (Denmark, the United States), it is highest under

[4]Details of the statistical models and the procedure are in the references.

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Bretton Woods. Still others (Italy, the United Kingdom), show the highest variability under fluctuating rates. Germany, Denmark, and Sweden show the lowest variability under fluctuating rates.

The postwar quarterly data in Meltzer (1986) show similar mixed results for the four countries considered. There are relatively large differences in unanticipated variability of output, prices, and money under the fixed and fluctuating rate regimes, but the changes are not unidirectional. Data for Germany suggest that the variability of prices and output is lower under the fluctuating rate regime than under Bretton Woods, but Canada shows the opposite pattern for prices and not much difference for real output.

The main conclusions to be drawn from the data on unanticipated changes are similar to the conclusions reached earlier. Variability is not uniformly greater or smaller under one regime.[5] Country-specific factors, including possible differences in domestic policies and country-specific real shocks, may be important.

If we accept this conclusion and the findings on variability of real exchange rate changes reported in Mussa (1986), it would appear that, on average, unanticipated variability and information costs were lower under fixed exchange rates during the postwar period. The reason is that countries were able to reduce the variability of real exchange rate changes by fixing the nominal exchange rate without increasing variability of other real variables to an economically significant degree. This follows from Mussa's finding that the variability of *ex post* real exchange rate changes in countries with fluctuating exchange rates is from 8 to 80 times greater than under fixed exchange rates and the finding here that systematic differences in the variability of other variables, if present, are difficult to detect.

Variability of Multilateral Exchange Rates

This section reconsiders the variability of changes in real and nominal exchange rates using trade-weighted, multilateral exchange rates. Quarterly data are from the International Monetary Fund (IMF) for the period from 1979/1 to 1989/3. The IMF computes multilateral real exchange rates in several ways, using weighted unit labor costs, as well as wholesale and consumer prices to deflate nominal exchange rates. I used the series based on unit labor costs and wholesale prices. Each of the series on real rates is a trade-weighted real exchange rate for a particular country using the weights applicable to that country. The relation is $N \equiv R + P$, where N, R, and P

[5]Grilli and Kaminsky (1988) reached a similar conclusion from a comparison of dollar-pound exchange rates under different regimes since 1885.

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are first differences of the logarithms of weighted nominal and real exchange rates and the relative price of domestic to foreign costs or prices.

A major problem faced in any comparison of exchange rate regimes arises from the absence of a standard. Fixed rates do not remain fixed, and fixed exchange rate countries rely on credit controls, exchange controls, and other distortions to avoid parity changes. Fluctuating rate countries intervene to affect nominal values and also introduce exchange controls and distortions to affect real exchange rates. Further, non-EMS countries include those that peg to a basket of currencies, using adjustable pegs. As a first step, I consider whether a commitment to fixed but adjustable bilateral rates has implications for the correlation between multilateral nominal rates for the pair of countries. Then, I compare variability of real exchange rate changes in a sample of countries.

Simple correlations between changes in multilateral nominal or real exchange rates help to identify countries that maintain relatively fixed nominal exchange rates. If two currencies are fixed and have similar trade weights, then the simple correlation of changes in nominal exchange rates should be near to unity. The converse is not true, however. Correlation does not imply a fixed rate; two currencies may move together against an important or dominant third currency, such as the dollar, without being fixed. A correlation of nominal rates in the neighborhood of -1 suggests that the two currencies fluctuate relatively freely; depreciation of one accompanies appreciation of the other. For real rates, correlations also reflect differences in price movements.

Table 5 shows the correlations between changes in N and R for three countries that pursue compatible, low inflation policies and have relatively active inter-country trade. These countries, however, differ in exchange rate regime: Germany is a member of the EMS; Austria, although not a member of the EMS, maintains a fixed parity with Germany; and Switzerland, also not a member of the EMS, is usually said to have an independent monetary policy. Differences in types of shock in different periods and differences in the performance of the EMS in earlier and later periods suggest that some benefit may be gained from comparisons based on more than one period. I used quarterly data for 1979/1 to 1989/3 and 1983/1 to 1989/3.

Table 5 shows a relatively high correlation between nominal exchange rate changes in the three countries. The correlation is slightly higher for Germany and Austria, but the difference is not impressive. Changes in real rates show more differentiation.[6]

[6]The IMF computes real exchange rates using wholesale (WP) and consumer price

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TABLE 5

SIMPLE CORRELATIONS, EXCHANGE RATE CHANGES FOR GERMANY, AUSTRIA, AND SWITZERLAND, QUARTERLY 1979–89 AND 1983–89

	Nominal Rates (N)	
	Austria	Switzerland
Germany	.97	.91
	1.00	.93
Austria		.94
		.92
	Real, Wholesale Prices (R_{WP})	
	Austria	Switzerland
Germany	.40	.78
	.30	.95
Austria		.01
		.24
	Real, Unit Labor Costs (R_{ULC})	
	Austria	Switzerland
Germany	.71	.10
	.63	.13
Austria		.30
		.42

NOTE: The top number in each cell is for 1979/1–1989/3; the lower number is for 1983/1–1989/3. Each cell shows the simple correlations between a pair of countries, e.g., Germany and Austria, Germany and Switzerland, or Austria and Switzerland.

Changes in the trade-weighted real exchange rate, based on wholesale prices (WP), are closely related for Germany and Switzerland, particularly after 1983; but changes in real exchange rates based on relative unit labor costs (R_{ULC}) are unrelated. For Austria and Germany, correlations for R_{ULC} are much higher than for R_{WP}. The relatively high correlations of changes in real exchange rates based on relative trade-weighted costs of production lower the social cost of the fixed nominal exchange rate for Austria.

Tables 6 and 7 permit a comparison of fixed and fluctuating rate systems and, by comparison with Table 5, show that fixity of bilateral nominal exchange rates is neither necessary nor sufficient for multilateral nominal exchange rate stability. Table 6 shows correlations of exchange rate changes for some of the principal members of the

levels and unit labor costs (ULC) for each country. I have used the wholesale price and unit labor cost series. The two series for R, denoted R_{WP} and R_{ULC}, are derived from the single series for N.

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TABLE 6

SIMPLE CORRELATIONS: GERMANY, FRANCE, ITALY, AND THE NETHERLANDS, 1973–89 AND 1983–89

	France	N Italy	Netherlands
Germany	−.60	−.68	.99
	.23	−.56	1.00
France		.96	−.61
		.30	−.52
Italy			−.67
			.27
		R_{WP}	
Germany	.55	.40	.92
	.82	.57	.96
France		.30	.45
		.42	.77
Italy			.51
			.70
		R_{ULC}	
Germany	.08	.63	.44
	.09	.66	.78
France		−.33	−.09
		−.53	−.14
Italy			−.07
			.74

NOTE: The top number in each cell is 1979/1–1989/3; the lower number is 1983/1–1989/3. For an explanation, see Table 5.

EMS. Table 7 compares correlations of changes in multilateral exchange rates for the mark against some of the principal currencies to similar correlations for changes in principal fluctuating rate currencies.

Among EMS countries, only the Netherlands shows the degree of correlation with Germany found for Austria and Switzerland. Prior to 1983, France and Italy frequently devalued relative to Germany, so the correlation of multilateral nominal exchange rate changes is negative. For Italy, the correlation remains negative for 1983–89. Nominal exchange rate changes in Germany and Japan (Table 7) are more closely related than the changes for Germany with some principal members of the EMS (Table 6).

These data suggest that countries have achieved relatively stable multilateral exchange rates by pursuing similar monetary policies.

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TABLE 7

SIMPLE CORRELATIONS: GERMANY, JAPAN, THE UNITED STATES, AND THE UNITED KINGDOM, 1973–89 AND 1983–89

	Japan	N U.S.	U.K.
Germany	.92	−.36	−.83
	.93	−.96	−.72
Japan		−.32	−.78
		−.92	−.66
U.S.			−.02
			.54
		R_{WP}	
Germany	.35	−.80	.20
	.74	−.89	.11
Japan		−.60	−.04
		−.94	.39
U.S.			−.24
			−.42
		R_{ULC}	
Germany	.78	−.82	−.53
	.92	−.98	−.49
Japan		−.67	−.57
		−.64	−.16
U.S.			.09
			.39

NOTE: The top number in each cell is 1979/1–1989/3; the lower number is 1983/1–1989/3. For an explanation, see Table 5.

Weights for the dollar differ substantially for Germany and Japan, so movements of the dollar are not the principal reason for the correlation. The relatively high correlation of nominal exchange rate changes for Germany and Japan appears to result from similar economic policies, particularly monetary policies. Both countries pursue policies of low inflation. The high correlation between nominal changes in the mark and the yen, like the correlation between the Swiss franc and the mark, reflects common policy rules in all three countries.[7] Common monetary policy rules to achieve low inflation or price stability appear to achieve almost as much correspondence of multilateral nominal exchange rate changes as the more rigidly

[7]The correlations between the trade-weighted yen and Swiss franc are 0.87 and 0.82 for the two periods.

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fixed exchange rate policies of Austria and the Netherlands with Germany.

A comparison of Tables 5, 6, and 7 shows greater correspondence of changes in real exchange rates based on unit labor costs (R_{ULC}) for Germany and Japan than for EMS member countries, Switzerland, or Austria in 1983–89. The correlations of R_{WP} and R_{ULC} for France and Germany are similar to the correlations for Germany and Switzerland, while the correlations for Germany and Italy are similar to those for Germany and Austria. Table 6 also shows that, frequent devaluations notwithstanding, Italy's R_{ULC} moves with Germany's. Less-frequent devaluations of the French franc in the late 1980s, however, have not changed the relation of French and German R_{ULC}. Nor have changes in relative costs of production in France and Germany been harmonized by the EMS. In the EMS, changes in real exchange rates based on wholesale prices tend to move more closely together than real exchange rates based on the cost of production (unit labor costs). If the correlations between changes in real exchange rates remain in the same range as Europe moves toward monetary union, there are likely to be significant social costs of resource unemployment in France or Germany as relative costs of production change.

Table 7 shows that the considerable amount of intervention in exchange markets carried out since 1975 has had little effect on the negative correlation of real exchange rate changes between the United States and Germany or the United States and Japan. Correlations have been -0.9 or above (in absolute value) for 1983 to 1989, suggesting that the dominant movements have been devaluations or revaluations driven by the difference in economic policy pursued by the three countries and differences in relative costs and opportunities. For the United States, Germany, and Japan, correlations of changes in real exchange rates for 1983–89 are negative and similar to the correlations for N. This suggests that differences in inflation played a lesser role. For the United Kingdom, correlations with other countries are typically low. The United Kingdom generally has pursued independent policies, particularly monetary policies, that have produced comparatively high inflation, so its nominal exchange rate was devalued against the low-inflation countries.

Table 8 shows the ranking of variances for N, R, and P on the basis of multilateral rates. Variances of the relative rates of change are ranked from highest to lowest. Var N for Japan, the most variable nominal exchange rate during this period, is 19 times Austria's Var N.

Even a cursory glance at Table 8 shows two clear patterns. First, countries with partially fixed nominal exchange rates generally have

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TABLE 8

RANK OF VARIANCES OF CHANGES IN MULTILATERAL EXCHANGE RATES,[a] 1979/1–1989/3

	From ULC[b]		From WP[c]	
Var N	Var R	Var P	Var R	Var P
Japan	Japan	Norway	U.K.	Japan
U.S.	U.K.	Spain	Japan	Norway
U.K.	U.S.	Italy	U.S.	Sweden
Sweden	Spain	Ireland	Sweden	Austria
Spain	Sweden	Austria	Norway	U.K.
Switzerland	Switzerland	Denmark	Switzerland	Italy
Ireland	Ireland	Sweden	Spain	Germany
France	Denmark	Finland	Austria	Spain
Denmark	Norway	U.K.	Germany	U.S.
Canada	Italy	France	Ireland	Belgium
Germany	Canada	Germany	Finland	Denmark
Norway	Germany	Belgium	Belgium	Ireland
Belgium	Belgium	Japan	France	Netherlands
Finland	Finland	Switzerland	Netherlands	Finland
Netherlands	France	Netherlands	Denmark	France
Italy	Austria	Canada	Italy	Canada
Austria	Netherlands	U.S.	Canada	Switzerland

[a]From highest to lowest.
[b]ULC = change in relative unit labor cost.
[c]WP = change in relative wholesale prices.

lower variability of changes in multilateral nominal exchange rates than countries that float more freely. Many of the EMS countries and Austria have relatively low values for Var N, whereas the countries that fluctuate most freely show the highest values. On average, the variance of the nominal exchange rate for fluctuating rate countries—the United States, the United Kingdom, Japan, and Switzerland—is 5.8 times the variance for the countries in the EMS (including Austria). For the remaining countries—Sweden, Spain, Norway, Finland, and Canada—the variance is closer to the EMS average than to the fluctuating rate average. Second, there is a clear, positive association between Var N and either measure of Var R. As in Mussa (1986), countries that are part of a fixed exchange rate bloc have lower variability of changes in *ex post* real exchange rates than countries that float freely. The relative differences are somewhat smaller than for Var N. The ratio of the highest to the lowest Var R for the countries in Table 5 is 7.4 using ULC and 8.9 using WP.

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The relation of Var P to Var R is less clear from inspection. Non-EMS countries have both the highest and lowest values of Var P. For example, the United States has the lowest value of Var P based on unit labor costs (ULC), and Switzerland has the lowest value based on WP. Japan has the highest value of Var P based on wholesale prices but a relatively low value of Var P based on unit labor costs. On average, Var P_{ULC} for fluctuating rate countries is half the average for EMS countries.

Table 9 shows rank correlation coefficients for the 17 countries. The rank correlations suggest that Var R and Var N are positively correlated, but the correlation of Var R and Var P depends on the measure of P. The relation is weaker for ULC than for WP. Further, the variances of the two measures of P are unrelated to Var N. Fluctuating rates or more frequent devaluations or revaluations that increase Var N do not affect the relative ranking of variability of changes in relative costs and prices.

TABLE 9

RANK CORRELATIONS FOR VAR N, VAR R, AND VAR P, 1979/1–1989/3

		Correlation
Var N	Var R_{ULC}	.87
Var N	Var R_{WP}	.66
Var R_{ULC}	Var P_{ULC}	.02
Var R_{WP}	Var P_{WP}	.58
Var N	Var P_{ULC}	−.24
Var N	Var P_{WP}	.15

NOTE: 5 percent significance level = 0.41.

The data also show that changes in real exchange rates are more variable than changes in relative unit labor costs and relative wholesale prices in all countries. The difference in mean variability of real exchange rates based on ULC for the four fluctuating rate countries and the eight EMS countries is significant at the 1 percent level. The difference in variability of relative unit labor costs goes in the opposite direction; unit labor costs are less variable in fluctuating rate than in EMS countries, but the difference is not statistically significant.

Table 10 reports the mean values of variances of P for EMS, fluctuating rate, and other countries. Also shown are the mean values of Var P for the three principal EMS countries to compare to the large

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TABLE 10

MEAN VAR P FOR EMS AND NON-EMS COUNTRIES, 1979/1–1989/3 (QUARTERLY RATES × 100)

	EMS		Non-EMS	
	All[a]	3 Largest[b]	Fluctuating[c]	Other[d]
Based on ULC	.013	.014	.007	.017
Based on WP	.017	.016	.037	.030

[a]Seven EMS countries plus Austria.
[b]France, Germany, Italy.
[c]United States, Japan, United Kingdom, Switzerland.
[d]All remaining countries in Table 8.

fluctuating rate countries. All values are at quarterly rates multiplied by 100.

The data suggest that, on average, non-EMS countries have greater variability of changes in relative wholesale prices. This conclusion does not hold for changes in unit labor costs. The relative variability of the unit labor cost ratio is lower for fluctuating rate countries than for either EMS or other countries.

To further study the differences between countries, I ran regressions of Var R and Var N on the two values of Var P. These are shown in Table 11, where the constant term is not reported. To maintain degrees of freedom, non-EMS countries are treated as a group.

The regressions hint at some similarities in the responses of the two sets of countries. For both EMS and non-EMS countries, Var N and Var R work in opposite directions; the variances of the changes in relative price ratios increase with Var R and decline with Var N. There is even some evidence of uniformity in the relation of Var P to Var R. Three of the four coefficients are about 0.8. The small number of degrees of freedom suggests caution in drawing strong conclusions from these regressions.

Mussa (1986) found that changes in real exchange rates are more persistent under fluctuating rates than under fixed exchange rates. This conclusion does not hold for the data on multilateral exchange rates, using the serial correlation of changes in real exchange rates to measure persistence. The reason is that serial correlation is usually not significant at the 5 percent level.[8] For changes in the real exchange rate, R_{ULC}, only Canada shows significant serial correlation (0.55). For R_{WP}, none of the serial correlations is significant at the 5

[8]Five percent significance is at 0.41.

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TABLE 11

REGRESSIONS OF VAR R AND VAR N ON VAR P

Dependent Variable	Var P_{ULC}	Var P_{WP}
	EMS	
Var N	−.33	−1.49
	(.81)[a]	(5.55)
Var R_{ULC}	.83	.82
	(1.90)	(2.88)
Var R_{WP}	.10	.66
	(.34)	(3.46)
R^2	.50	.93
	Non-EMS	
Var N	−.70	−1.08
	(1.95)	(.82)
Var R_{ULC}	.56	.78
	(1.47)	(.56)
Var R_{WP}	.90	.52
	(.76)	(1.19)
R^2	.53	.43

[a]Numbers in parentheses represent t-statistics.

percent level. For P_{ULC}, the countries with the highest serial correlation are France (0.72), Canada (0.52), and the Netherlands (0.30); for P_{WP}, the highest serial correlations are for Finland (0.40) and France (0.37). In both cases, there is a mixture of exchange rate regimes.

Implications for Monetary Union

The data on variances support the hypothesis that EMS countries have a lower variance of changes in relative wholesale price levels and real and nominal exchange rates than non-EMS countries. This conclusion does not hold for relative unit labor costs. Non-EMS countries with fluctuating exchange rates appear to have lower variances of changes in relative unit labor costs than EMS countries. Further, there is some evidence of an association between the variability of changes in real or nominal exchange rates and the variability of changes in relative prices and production costs.

The evidence examined in the previous sections supports two hypotheses that I tentatively accept. First, the EMS countries considered have had lower variability of changes in exchange rates and relative prices on average compared to the averages for non-EMS

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countries; that is, prices and exchange rates are more flexible in the non-EMS countries than in EMS countries. Second, country-specific differences (including policy differences) appear to be more important for explaining differences in variability or flexibility than does the exchange rate regime. The differences between the countries examined may reflect greater freedom to choose policies in non-EMS countries, particularly in fluctuating rate countries. And the lower variances found for the EMS, on average, may reflect Germany's role in the EMS.

In Table 8, three of the five columns show that the variances for the EMS countries are grouped around the value for Germany; variability is similar for these countries on all measures considered. Table 10 shows the greater degree of correspondence in the variability of relative price changes for EMS countries compared to non-EMS countries. The data do not show whether the greater degree of correspondence arises from policy harmonization, German dominance, or some other source.

The role of Germany in the EMS has been the subject of several investigations. Giavazzi and Giovannini (1987, 1989) claim that Germany plays a role in the EMS that is similar to the dominant role the United States took under Bretton Woods. Fratianni and von Hagen (1990) deny that Germany has that role. They conclude that the EMS is an interactive system and see the Bundesbank as an important, but not the dominant, central bank.[9] Both pairs of authors recognize that EMS countries have devalued and revalued their currencies and that several have used exchange controls. Exchange controls are a substitute for interest rate, relative price, and real exchange rate changes. Such controls lower welfare and reduce the variability of relative prices and real exchange rates, but they do not commensurately reduce the costs of acquiring information. Devaluation and revaluation increase nominal and real exchange rate variability but avoid changes in other relative prices and quantities.

There are at least three reasons for using caution in interpreting the evidence from the EMS countries as representative of the variability, costs, and responses to be expected in a fully fixed exchange rate system without exchange controls, such as is now proposed for Europe. First is the relative stability of German policies, particularly the emphasis given to price stability. Germany's average inflation rate (from 1975 to 1987) is the lowest of the countries in the sample. Second is the so-called Lucas critique that warns about structural

[9]Weber (1988) found that the high-inflation EMS countries gained credibility from Germany.

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changes following changes in policies. Third is the reliance by some EMS members on exchange controls and devaluations or revaluations, which have permitted countries to remain in the EMS without fully adjusting their policies to those of Germany. Under the proposed European system, exchange rates are to be fixed permanently and capital will be freely mobile, but there is no rule for coordinating policies of independent central banks. A European monetary authority, if agreed to, may choose different policies and achieve a different rate of inflation than the Bundesbank.

Differences in policies and outcomes in EMS countries have been relatively large. For 1979–87, the average inflation rates ranged from about 2 percent in Germany to double digits in Italy and Spain. Average inflation rates are closely related to average changes in relative prices and costs. As shown in Table 12, the rank correlation for the 12 countries for which data on average inflation is most readily available is above −0.9 (in absolute value) when both variables are ranked from highest to lowest. (The negative correlation reflects the fact that a high rate of domestic unit labor cost or wholesale price change, relative to foreign costs or wholesale prices, lowers the values of P_{ULC} or P_{WP}.) The rank correlations also suggest that average rates of change of the nominal exchange rate for 1979–87 are closely related to country rates of inflation. The rank correlation of changes in nominal and real exchange rates is much weaker, and the correlation is negative but not significant for R_{ULC}. These data suggest that changes in nominal exchange rates during the period studied have mainly reflected the effects of inflation operating on relative unit labor costs and relative prices of domestic and foreign goods.

TABLE 12

RANK CORRELATIONS, CHANGES IN NOMINAL EXCHANGE RATES FOR 12 COUNTRIES[a]

N, P_{ULC}	=	.99[b]	N, P_{WP}	=	.96
N, inflation[c]	=	−.95			
P_{ULC}, inflation[c]	=	−.91	P_{WP}, inflation[c]	=	−.95
N, R_{ULC}[d]	=	−.23	N, R_{WP}[d]	=	.45

[a]Data for the 12 countries omit Austria, Denmark, Finland, Ireland, and Norway, which were not available in the source.
[b]For 17 countries = .99 also.
[c]GNP or GDP deflator; inflation rates are compound annual rates for 1975–87, from *International Economic Conditions*, Federal Reserve Bank of St. Louis, July 1989. For Spain, the inflation rate is available only through 1986.
[d]For 17 countries in Table 8.

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Underlying the correlations in Table 12 are relatively large changes in relative prices and costs and in nominal exchange rates. The EMS group includes both the country with the third largest average exchange rate revaluation (Germany) and the largest average rate of devaluation (Italy), the third largest average increase in unit labor costs (the Netherlands), and the largest average reduction (Spain). If Europe had been a currency bloc with no exchange controls, then these differences would have required larger and more frequent changes in exchange rates. Countries would have been forced to forego independent policy actions or to adjust exchange rates.

Further, if the rate of inflation in the principal EMS countries had remained at the EMS average instead of being reduced toward the German rate, the rank correlations in Table 12 suggest that the changes in nominal exchange rates and in relative costs and prices would have been larger. The variance of relative price changes for the (partially) fixed rate countries would most likely have been larger as well, and the information costs of the fixed rate system would have been higher.

If the European Community removes and remains free of capital controls, then the working of the system and its cost or benefit will depend on the system's policy rule. The decision to remove all capital controls and to reduce, and finally eliminate, changes in parities is inconsistent with the continuation of independent monetary policies. If monetary control is concentrated in a single European central bank or monetary authority, then variability and costs of information for the new system will depend on the policy rule followed by the new central bank. The public will face increased uncertainty about the new bank's activism and about the way the bank will respond to real and nominal shocks, to unemployment and inflation, to individual governments, and to the European Community. The relation of money growth to country deficits or to an EC deficit would only become clear over time.

A single currency for the EMS bloc, produced under a clear rule for maintaining stability of the expected price level within the bloc, would enhance welfare. The public would face lower transaction costs and would benefit from greater stability of prices, permanently fixed exchange rates within the bloc, and the elimination of exchange controls within the currency area.

The advantages of gradual evolution toward a system of irrevocably fixed exchange rates are less clear. Changes in the relative price and real exchange rate between member countries can be much larger than under the EMS. Much will depend on the type of shocks that

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occur, on the compatibility of the monetary rules followed by the different monetary authorities, and on the public's belief that fixed exchange rates will remain fixed. Failure to agree in advance on a rule for monetary policy that applies to each country repeats the principal Bretton Woods error, generates avoidable uncertainty, and increases the risk that the system will fail.

Conclusions, Limitations, and Suggestions

It seems obvious that transaction costs and the costs of acquiring information can be reduced by eliminating multiple currencies and establishing a single money for the European Community. The Delors Report does not do that. In stage one, exchange controls and restrictions on capital movements are eliminated and monetary coordination is to be increased. As part of stage two, the report proposes a European System of Central Banks. Responsibility for policy would remain with national authorities, but the individual country central banks would attempt to coordinate policies; later an EC monetary authority would gradually accept authority and responsibility. Eventually, exchange rate changes would be eliminated, and national currencies would be replaced by a single money.

A common currency should not be regarded as the limit reached by a system of fixed exchange rates between national monies as exchange rate changes approach zero. With a single currency, Europe would not face the difficult task of reconciling independent monetary authorities, fixed exchange rates, price stability, and unrestricted capital movements. Adopting a single currency would change anticipations about the way in which adjustment to real and nominal shocks would occur in the future, eliminate any prospect of devaluation or revaluation of nominal exchange rates, and change expectations about future prices and costs and their variability. The magnitude of such changes and even their direction would depend on the design of the new monetary institution and the type of monetary rule adopted.

Little can be known now about these matters until we know about the design of the future system. Yet, without such knowledge, there is no basis for concluding how the proposed system will work in practice. Experience with the Bretton Woods agreement is instructive. The designers of Bretton Woods did not specify a rule for monetary policy or provide a safeguard against U.S. inflation. Neither they nor the signatories anticipated that within 20 years U.S. policy would become the engine of world inflation. The problem on which they spent much time at Bretton Woods was avoiding deflation, the problem of the 1930s. One of the most contentious issues was the "scarce

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currency clause," an attempt to prevent the consequences of U.S. deflation from spreading to the rest of the world. In the end, the scarce currency clause was irrelevant, and the system proved incapable of preventing the spread of United States inflation.

The same type of problem arises in the European Monetary System. It is a fact that the Bundesbank has followed a less-inflationary policy than most of its neighbors, but it is uncertain whether that policy will persist under different political and economic circumstances. A rule for monetary policy avoids reliance on Bundesbank decisions to continue its policy rule and, if properly designed, reduces uncertainty about future prices and exchange rates.

The paper attempts to extract information about the performance of alternative monetary systems from the experience with different types of mixed systems in the recent past. The problem in interpreting these findings is to separate the effects of particular policy rules or procedures from the effects of monetary standards. The problem is made more difficult by the types of systems examined. The fixed rate systems have fixed but adjustable rates; all of the fluctuating rate countries have intervened to adjust exchange rates. Intervention often increases exchange rate variability. Countries have used exchange controls and other restrictions to reduce exchange rate fluctuations. Despite these limitations, some generalizations appear to be robust. Changes in real and nominal exchange rates appear to depend more on policies than on an exchange rate regime. Multilateral exchange rate changes for Germany and Japan are more highly correlated than for changes in Germany and many EMS members. The variability of changes in real exchange rates is higher for both measures of real multilateral exchange rate changes in countries with fluctuating exchange rates and independent monetary policies (Japan, Switzerland, the United Kingdom, the United States) than in EMS countries. Fluctuating exchange rates appear to increase the costs of information about future real exchange rates. The increased variability of changes in multilateral exchange rates in fluctuating rate countries, however, is less than the increase reported by Mussa (1986) using bilateral rates. And the relatively low variability of changes in relative unit labor cost in the countries with a fluctuating rate suggests that there may be some offsetting welfare benefits. The more rapid decline in unemployment rates in non-EMS countries is consistent with a welfare gain.

The problem for the European Monetary Union is to capture the gains from a common currency without incurring the losses from variable monetary policy, from inflation or deflation, from uncertainty about future prices and inflation, or from low credibility. One way to

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learn about the benefits of a common currency is to introduce a parallel currency that would be legal tender for private and public payments throughout the European Community. The parallel currency—call it the ECU—would be issued by a monetary authority on demand. The monetary authority would not have authority to change the quantity of ECUs in circulation except in response to demand. It would purchase or sell ECUs against the currencies of member countries, on demand, at fluctuating exchange rates.

Money-holders concerned about inflation, deflation, or devaluation would hold or use the ECU if it had a relatively stable domestic purchasing power. This would restrict the policies of national central banks and provide an opportunity for money-holders to hold a more stable currency basket at low cost. If a large demand for ECUs developed, then individual currencies might be displaced. If the ECU became the dominant money, then a new rule would be required to control the production of ECUs.

A better alternative, I believe, is to capture the gains from a single currency by replacing the current European currencies with a common currency that has stable value now. This would reduce the costs of information and transactions. Further, there are unexploited opportunities to increase welfare by increasing price and exchange rate stability, since no country has achieved either stable exchange rates or stable prices during the postwar years. The common currency would be issued in exchange for currently outstanding currencies. Its future supply would be governed by an adaptive rule to maintain anticipated price stability. In practice, this could be achieved by setting the growth rate of base money equal to the average rate of growth of output minus the average growth of base velocity. Because these growth rates may change, a three- or four-year moving average should be used to set the average growth rates of output and velocity (McCallum 1988, Meltzer 1986).

The proposed common currency would avoid the uncertainties the Delors Committee's proposals engendered about future policy and the evolution of the monetary system. Because Europe is an integrated trading area, it can gain from having a common currency supplied according to a stable and credible rule. It is less clear whether European countries gain by following the path recommended by the Delors Committee. Neither the Delors Committee nor subsequent discussion has suggested how the new system would avoid the principal error of Bretton Woods, that is, the failure to specify a rule that maintained stability of money and other nominal values. If that rule can be agreed upon, there seems to be no advantage to delaying the development of a common currency. If a rule

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cannot be agreed upon, there is no evidence of a welfare gain from accepting the committee's proposal.

Data Appendix

The series for stock prices and consumer prices are given as index numbers. The OECD used three base dates in Main Economic Indicators (MEI): 1975, 1980, and 1985. We adjusted to a constant base year, 1985.

Inflation was determined as the log difference between consecutive values of the CPI, except for Japan, where the absence of a consumer price level necessitated using the GNP deflator. Data were then annualized.

Real values for the interest rate series (*ex post* real rates) are computed as the difference between the nominal rate on government debt and the one-period inflation rate. Real stock values were computed as the ratio of the stock market price level to the consumer price level and do not reflect dividends.

For the ULC series, both the OECD disk and MEI gave values for the 1970–79 period. Those from the MEI were averaged to produce semi-annual observations and thus match the values obtained from the OECD disk. These were then rebased from 1975 to 1982.

Certain series are not available for the entire 1960–89 period. The omissions are noted in the tables.

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Institutional Requirements for Stable Money in an Integrated World Economy

Peter Bernholz

The European Monetary System is one of the important pillars of the international monetary order, and the planned development of this system toward a monetary union may be of great importance to the future of the international monetary regime. If monetary union were realized in Western Europe, then the characteristics of its monetary constitution and its stability or instability would have consequences for the states outside its orbit. Because of this, there is ample reason to reflect on the characteristics of the present international monetary system and to discuss the institutions necessary to turn it into an inflation-stable monetary order. But such an analysis is not sufficient. Just as important is how and under which conditions the institutions favored could be introduced, given the present political and economic environment. Although we still need to learn more in order to fully answer these questions, they must be considered and an effort must be made to answer them.

The Present International Monetary Order

The international monetary order—or rather disorder—reflects the partial anarchy implied by the existence of sovereign national states (see Bernholz 1990). Uncoordinated and contradictory national policies exist because fiat money regimes give decisive power to governments and central banks. True, there remains some competition among different national currencies, but it is severely restricted by spatial monopolies whose policies are influenced by domestic politi-

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The author is Professor of Economics at the University of Basel and a former member of the Macro Economic Policy Group, which advises the Commission of the European Community. He is also a member of the Council of Advisors of the German Minister of Economics.

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cal processes, special interests, and international bargaining among states. According to Roland Vaubel (1986, p. 927):

> At present, currency competition is severely restricted in many countries. Currency competition from *foreign central banks* can be restricted in several ways:
>
> - The currency issued by the national central bank can be prescribed as a private unit of account;
> - Contracts in foreign currencies can be prohibited by law or discouraged through discriminatory contract enforcement in the courts;
> - Governments can restrict or discourage the holding of foreign currencies by residents (or the holding of the domestic currency by foreigners) and thereby interfere with the choice of means of payments;
> - Governments can refuse to accept any other currency than the one issued by their central bank.
>
> Currency competition from *private money suppliers* is not admitted in any industrial country.

Discretionary monetary regimes, in contrast to the gold standard, for example, show a long-term inflationary bias (Figures 1 and 2). This is true, though to a lesser extent, even if central banks are independent of the government (Parkin and Bade 1978). Even "relatively" stable currencies like the U.S. dollar, the D-mark, and the Swiss franc have lost two-thirds of their value since 1950. This performance is worse than that of Russia during the 19th century after 1816 (Figure 2), which was considered to be inflicted with a weak and unstable currency. Moreover, no international reference standard in the form of a stable monetary constitution exists; there is no monetary regime that the governments of politically less stable countries could imitate to control the forces of inflation. During the 20th century, countries like Argentina (Alemann 1966), Brazil, Peru, Austria-Hungary (Subercaseaux 1912), and Russia (Zielinski 1898) endeavored again and again to introduce the silver or gold standard in an effort to return to the conditions existing in more "civilized" developed countries. Sometimes these efforts failed, and sometimes gold or silver convertibility had to be suspended after some time. But even under those conditions, the average rates of inflation remained well below those experienced today as a consequence of such repeated efforts, even though the political situation was as unstable in Latin America, the Balkans, and Italy as it is today. Figure 2 presents the results of Russia's efforts to move back to the silver standard after 1816 (convertibility was reached in 1839 and again abolished in 1856) and to introduce the gold standard from the 1880s (finally succeeding

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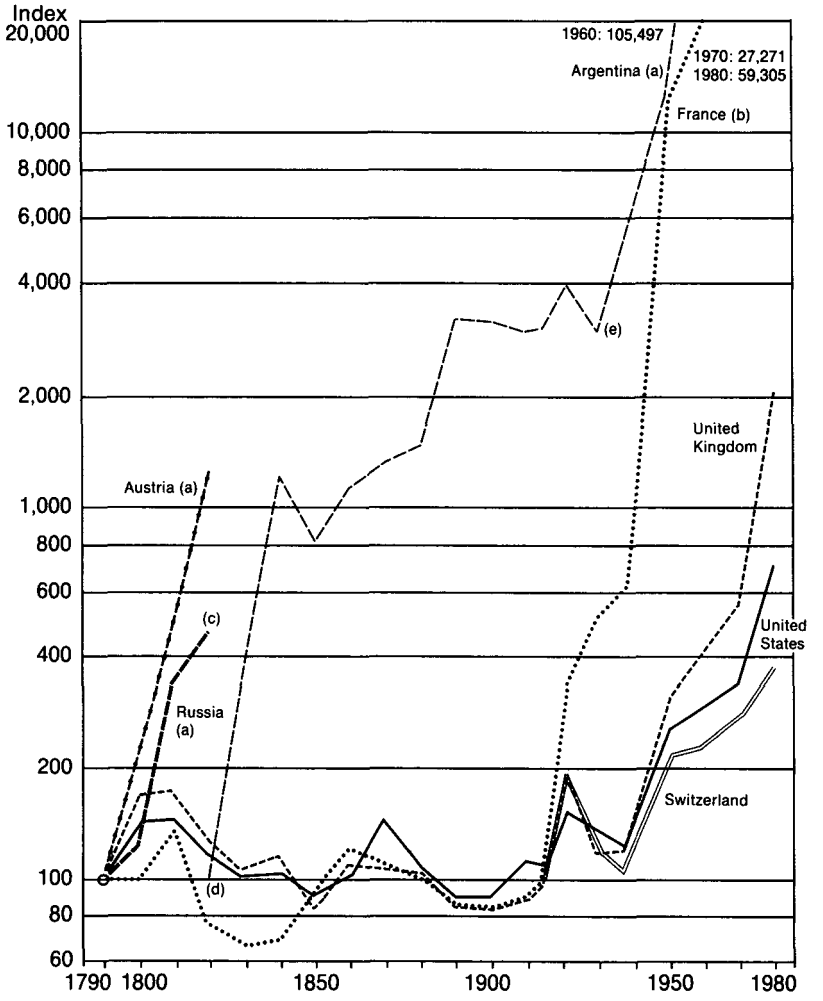
FIGURE 1

DEVELOPMENT OF WHOLESALE PRICES IN SEVERAL COUNTRIES, 1790–1980



(a) Exchange rate on Amsterdam for Russia, on Hamburg for Austria, gold price until 1929, and exchange rate on US$, since then for Argentina.
(b) 1796 = 100.
(c) 1814.
(d) 1826 = 100.
(e) 1929.

SOURCE: Mitchell (1976, pp. 735–47); U.S. Department of Commerce (1975, Part 1, pp. 199–202); Bernholz (1982, p. 15); Jiménez (1968, pp. 181–84).

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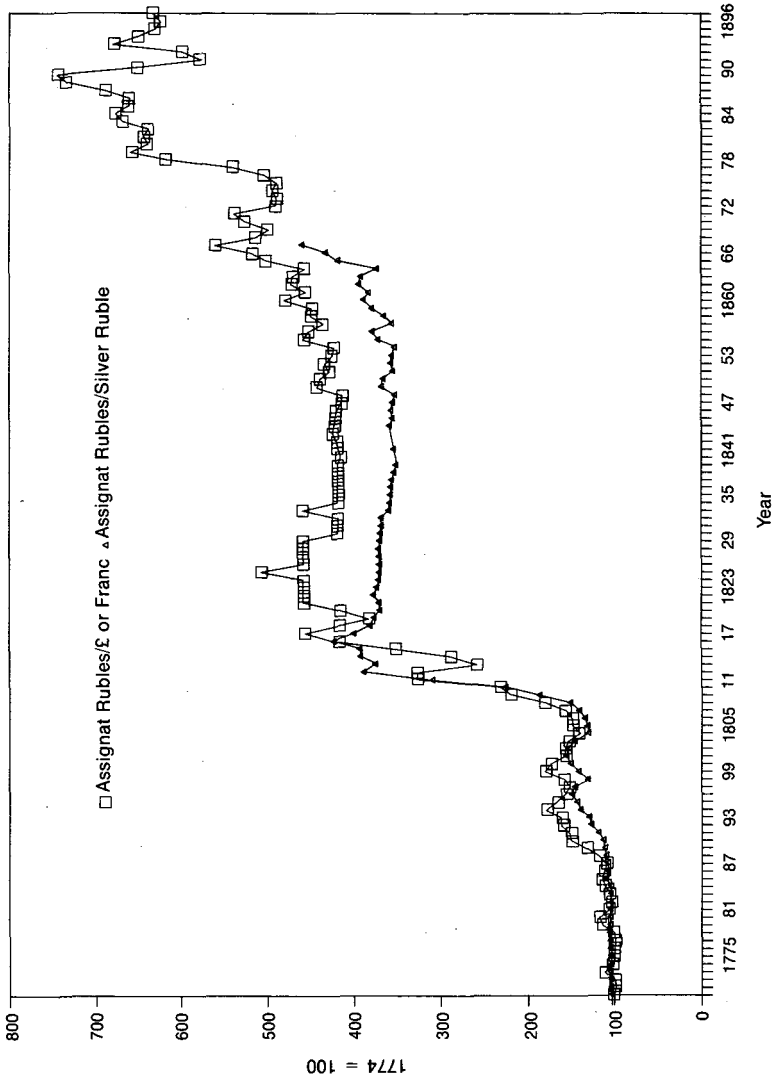
FIGURE 2

RUSSIAN EXCHANGE RATE AND SILVER PRICE, 1769–1897



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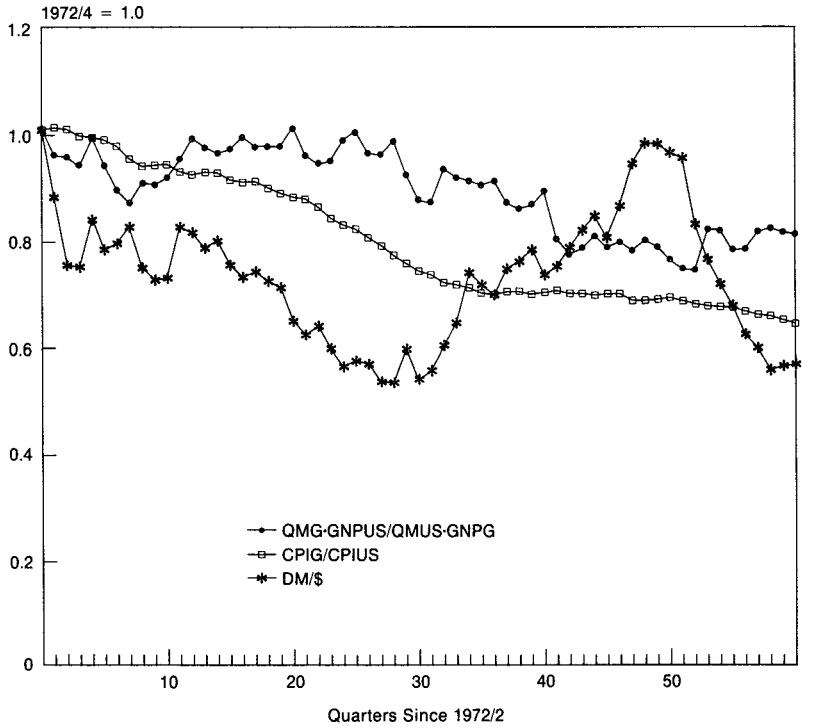
in 1896). In Argentina, Brazil, and Austria-Hungary, similar efforts took place. In some cases, as in Austria-Hungary and in Argentina in the 1890s (Bernholz 1984), the stabilization in the form of a return to the gold standard even proved to be a lasting success.

The present international monetary regime is not only plagued by inflation, but also by erratic, short-term moves of nominal exchange rates and by large, medium-term swings of real exchange rates around purchasing power parities (Figures 3 and 4). Erratic, short-term movements of exchange rates may not pose a great problem for international trade and capital movements, because exporters, importers,

FIGURE 3

MONEY SUPPLY, EXCHANGE RATE, PRICES
(GERMANY/UNITED STATES)



SYMBOLS: QMG, QMUS Quasi Money in West Germany and United States; GNPG, GNPUS Gross National Products; CPIG, CPIUS Consumer Price Indices.

SOURCE: International Monetary Fund, *International Financial Statistics*, monthly reports.

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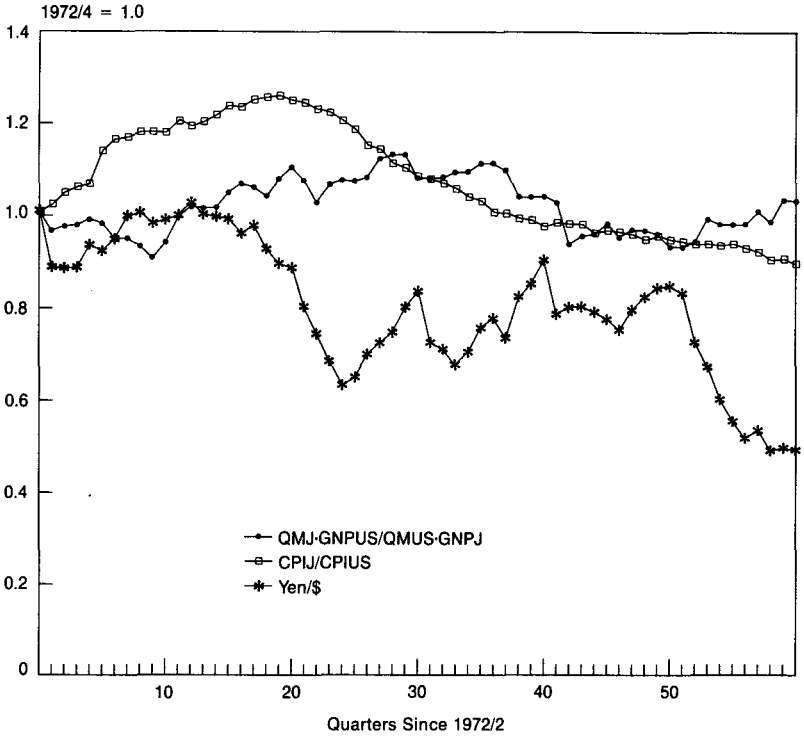
FIGURE 4

MONEY SUPPLY, EXCHANGE RATE, PRICES
(JAPAN/UNITED STATES)



SYMBOLS: See Figure 3; J refers to Japan.
SOURCE: International Monetary Fund, *International Financial Statistics*, monthly reports.

debtors, and creditors can usually hedge in forward markets. Still, hedging costs might be saved in another monetary regime if a great part of the short-term variability of exchange rates is caused by the discretionary monetary policies of governments and central banks that are manipulating their national monies because of domestic policy reasons.

The situation is different for the large, medium-term swings of real exchange rates. Here, usually, no hedging in forward markets is possible, since scarcely any such markets exist for more than one year. Even in this case we can argue that these movements of exchange rates are preferable to corresponding changes, say, of price

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or wage levels. But this argument can be accepted only if and insofar as the medium-term swings of exchange rates are mainly caused by changes in real factors. The empirical evidence seems to point in another direction. The study of more than 20 cases, from 1750 to the present for different countries, has shown that the medium-term swings of real exchange rates have been caused mainly by diverging policies of monetary authorities controlling fiat paper currencies, with aims strongly influenced by domestic policies (Bernholz 1982, 1984; Bernholz, Gärtner, and Heri 1985). If this is true, then the medium-term swings of real exchange rates are mainly welfare losses, since they make international trade and capital movements more hazardous because of the insecurity of the future values of contracts and payment obligations. Moreover, such swings pose an inherent danger to free international trade. During periods of overvaluation or vanishing undervaluation, governments are under strong political pressure by export- and import-competing industries and the people employed by them not only to reinflate and intervene against their own currencies but also to introduce protection against foreign competition in the form of quotas, asking foreign governments to limit exports, and exchange controls (Corden 1984, Bernholz 1987). Empirical evidence for this public choice argument is available. Gärtner and Ursprung (1989, pp. 120–21) conclude:

> The results of the estimation justify the model equation used. The greater the variance of the DM/$ exchange rate corrected for inflation, the more rapidly the number of anti-dumping complaints grow [introduced at the U.S. International Trade Commission] initially. . . . The variance explained remains modest with 23%. . . .
>
> Intervention activity of the Fed rises when the variance of the external value of the dollar increases and when trade protection grows, though, here again, not unlimited.

Compatible results were obtained by Gärtner (1987) and Honegger (1989) for West Germany, Great Britain, Japan, Canada, and Switzerland. In fact, with reference to events in 1977–78, the Swiss National Bank (1982, pp. 227–29) reported:

> The expansionary policies practiced in the United States in spite of rising inflation brought increasing pressure on the dollar since mid-1977. . . . The National Bank tried to fight the substantial revaluation of the franc through three kinds of measures. Since June 1977, she bought heavily on the foreign exchange market. . . . Secondly, she lowered the discount and lombard rates mainly because of the exchange rate in July 1977 and in February 1978. . . . Thirdly, the countermeasures against the inflow of money from abroad were strongly strengthened at the end of February 1978, especially by forbidding the investment of foreign funds in domestic

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> securities. . . . Already in June the American dollar came again under pressure. . . . On September 26, 1978, the rate of the franc reached its absolutely highest level. . . . The dollar fell to 1.45 francs (2.00 francs at the end of 1977) and the D-mark to 0.75 francs (0.95 francs at the end of 1977). Such exchange rates were a severe danger for the existence of broad segments of the Swiss export industries.
>
> In this situation, the National Bank decided, in agreement with the Federal Government, to change the course of its monetary policy. She announced on October 1, 1978, that she would influence the franc exchange rate in a way that the rate of the D-mark would stand sizably above 80 francs per 100 D-marks. In doing so, she gave up, for some time, the policy of a monetary target practiced since 1975. . . .
>
> To reach the announced exchange rate target, the National Bank had to intervene heavily during the first days of October. Taken together, she bought in the fourth quarter a gross amount of dollars valuing 10.6 billion francs. As a consequence, the franc weakened substantially.[1]

Instead of protectionist measures or discretionary interventions, some countries have taken more adequate action to remove at least a large part of their foreign trade from the dangers posed by real exchange rate movements. The European Monetary System stabilizing its internal exchange rates, and before it the European Currency Snake, may be seen as such an effort. Other countries stabilize their currencies vis-à-vis the U.S. dollar (e.g., Hong Kong), the European Monetary System (Austria), or currency baskets (Sweden, Norway, Finland).

It has been argued that present discretionary monetary regimes have proved to be superior in other respects to the inflation-stable gold standard before 1914. There is empirical evidence that some real variables—such as real growth rates of GDP, real interest rates, and unemployment rates—in most leading industrialized countries showed more variance before 1914 than between 1950 and 1980 (Meltzer 1986, Schwartz 1986). But this possible advantage has to be compared with the higher variance of real exchange rates, their medium-term swings, and the negative consequences of these factors for free trade. It also has to be compared with the disadvantages of inflation. The empirical results look quite different for the many countries suffering from advanced inflations that did not occur before 1914 (with the exception of France in the 1790s and the United States in the 1780s).

Finally, given the discretionary powers of governments and central banks, it is very difficult, if not impossible, for economic agents to

[1]For further historical evidence, see Bernholz (1987, pp. 416–20).

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form adequate expectations concerning the future movement of price levels and exchange rates. Whereas the gold or silver parities with free convertibility gave everyone an opportunity to monitor the working of the system and to form reliable expectations, this is not as true or is far less true for discretionary monetary regimes, even where target rates are announced for monetary growth. Thus, whereas commodity standards encouraged stabilizing speculation in foreign exchange markets, the opposite often happens in the present system. The announcement of targets for monetary growth has proved to be unreliable in all countries concerned and thus scarcely informed economic agents. It has also been argued, however, that the unpredictability of exchange rates is not important, since everybody can cover in forward markets. But except for the dollar, these markets are limited to up to one year and coverage costs are in no way negligible.

Governments have tried to mitigate the problems of the present international monetary system by efforts at international cooperation. The International Monetary Fund has remained, even after the fall of the Bretton Woods system. Within the IMF framework, some rules have been agreed to concerning exchange rates, competitive devaluations, and so forth. Also, the IMF has played an important role in temporarily postponing the debt crisis and in exerting some influence on domestic monetary and fiscal policies of the respective countries. Similarly the groups of 7 and 11 industrialized countries have tried to coordinate monetary and exchange rate policies and to set up specific credit facilities at the IMF. In spite of and partly even because of these efforts and institutional arrangements, the partial anarchy of the international system has only been mitigated, although not removed.

This is not surprising, given that national monetary authorities are strongly influenced by domestic political processes and that international organizations are, at least, partly oriented by bureaucratic ends to survive and expand. Moreover, the international bargaining game between monetary and fiscal agencies may lead to results, in a prisoner's dilemma setting, which is Pareto-inferior even judging from the political ends of the collective actors, not to speak of the interests of citizens (compare Vaubel 1983).

Let me finally note that these arguments should in no way be construed as expressing a preference for a regime of fixed exchange rates or a commodity standard. In fact, we have mainly adhered to a positive analysis of the present international monetary system, so no normative statements can be derived here. Even if we have judged certain characteristics of the present system as negative from a welfare point of view, this does not mean that a system of flexible

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exchange rates with more adequate monetary constitutions—and, thus, lower inflation and less volatility of real exchange rates—may not be superior to a fixed exchange rate system, especially in absorbing real shocks.

The Problem of an International Monetary Order in Historical Perspective

My sketch of the condition of the international monetary system suggests that far-reaching institutional reforms are necessary to remove the inflationary bias and the volatility of real exchange rates with their obnoxious consequences, caused by discretionary monetary policies of national authorities. To bring about such reforms, two major problems present themselves. Only the first problem has been discussed widely: Which kind of stable monetary regime and institutions should be introduced? I will return to this question later and mention here only that the problem has been discussed primarily for national economies without reference to the international setting.

The second problem has been sadly neglected: How can we move from the status quo to a stable international monetary regime, given the interest of politicians and governments to maintain their nation-bound discretionary hold on money? In an earlier paper (Bernholz 1986), I showed under what conditions individual countries have instituted stable monetary regimes. There have been four categories: (1) to end hyperinflations; (2) to restore a stable monetary system abandoned because of war, where the domestic price level had not moved too far out of line with that of important trading partners who had maintained a stable system; (3) to imitate successful monetary constitutions of developed countries; and (4) to respond to the removal of an undervaluation, an undervaluation caused by moderate inflation, that has diminished or turned into overvaluation because of a return to more stable monetary policies. In these cases, the new stable monetary regime was introduced together with a fixed exchange rate (gold parity) at a still undervalued level that made the regime palatable to export- and import-competing industries and the people employed by them.

For a discussion of how to arrive at a stable international monetary order, we can put aside the first two categories. But even the third and fourth categories are not suited for a *general* international reform taking place in many countries at about the same time. To imitate stable monetary regimes, at least one stable system must already exist, and not all countries can introduce undervalued currencies at the same time. It follows from the historical evidence that the third

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and fourth categories would allow only a gradual emergence of a stable international monetary system. At different times, different countries could introduce a stable monetary regime at exchange rates undervalued at that time, which would slowly be moved toward purchasing power parity by an adaptation of price levels. It is clear, however, that a stable international monetary regime could only evolve by such a process if the reforms in different countries would introduce about the same basic characteristics into a stable monetary constitution. This happened, in fact, in Argentina (1898), Austria (1892), the Netherlands (1875), British India (1896), Russia (1896), Belgium (1927), France (1927), and Czechoslovakia (1927), since all these countries introduced the gold or gold exchange standard at undervalued gold parities (see Bernholz 1986).

Early Examples of Stable International Monies

These examples should warn us against taking constructivist approaches to the establishment of a stable international monetary system. This impression is confirmed if we look at the historical evidence concerning international monetary systems. Most such systems were neither planned and designed nor introduced by international treaties but evolved as an unintended consequence of the actions of many individuals, including those in governments. The Byzantine gold coin, the hyperpyron (sometimes called the bezant), was a direct successor of the late Roman gold coin, the aureus or solidus. Because of its stability over centuries, it was widely used in the Mediterranean (including Islamic countries) until early Medieval times (Pirenne 1951). The Arabians imitated it with their dinar, which was also used internationally. The internationalization of the hyperpyron happened very much against the intentions of Byzantine emperors, who were afraid of the flow of gold out of their domains (Hendy 1985).

D. J. Joubert Botha (1987, pp. 102–4) commented on the development of the hyperpyron into an international currency:

> It [the bezant] satisfied all the conditions required to serve as an international medium of exchange: it had a high unit value (4.55 grams of 24-carat gold), it was stable both in weight and alloy (until the eleventh century) and it was backed by an economy that inspired confidence. . . .
>
> Although the emperors did not favour the role of the bezant as an international currency there was little they could do about it. The bezant entered international markets through commodity imports, and to limit its role to that of domestic currency only would have required that payments for imports be outlawed. . . . This never happened; in fact the bezant moved freely between countries. . . .

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> The confidence in the bezant was supreme. . . . Underlying the practice of resorting to a dominating medium of exchange has been the universal quest for stability in monetary affairs—stability, safety, and security. In the bezant all three requirements were satisfied through the aura of majesty surrounding this coin, the defacing and misuse of which carried the death penalty.

The debasement of this currency began with the decline of the Byzantine Empire. At the same time, economic development sped up in Western Europe (in the second half of the 11th century) while monetary disorders eroded the monetary system instituted by Charlemagne. Henri Pirenne (1951, pp. 258, 266) concluded:

> The progress of monetary circulation provided princes with the possibility to use it to their own advantage. Possessing the right to mint coins, they believed themselves to be authorized to use this in the interest of their treasury to the detriment of the public. The more money became indispensable for economic life, the more it was changed by those who had the right to strike it. . . . At the end of the 12th century, the monetary disorder had reached a point that a reform imposed itself.

In 1192, the Doge Henry Dandolo of Venice emitted a new silver coin, the gros or matapan, which had the value of 12 old Carolingian deniers (pennies). This new money was soon used internationally and was imitated. In Germany the heller, in France the sou, and in England the sterling appeared. These, in their turn, were imitated in Flanders, Brabant, and the Rhineland (in the form of the groschen).

But what does it mean to say that "a reform imposed itself," given the fact that money issuers could profit from a debasement of coins? Obviously, it must have been in their own interest to introduce the better money. Two explanations are suggested. First, if trade and commerce were important in the respective territories and could be furthered by good money, then its emission could benefit the treasury because of higher revenues from taxes, duties, and fees. Second, even with a small seigniorage per coin for a coin that was used internationally, a larger revenue could be secured than with a debased money that was used only in a restricted territory.

Seen from this perspective, it is not surprising that a trading city like Venice began the process of issuing good money and that its successful example was imitated by other cities and princes. The same is true for the resumption of the minting of value-stable gold coins. Following the example of Emperor Frederick II in Sicily, it was Florence that issued the first florins (*fiorino d'oro*) in 1252. Venice followed in 1284 with its ducat or zechin, a replica of the florin. It was no surprise, then, that France, Castilia, and sever-

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al princes of the Empire imitated this practice and issued gold coins during the late 13th and the 14th centuries (Pirenne 1951, pp. 262–63). The florin was widely used in Western Europe as a unit of account and in international transactions, presumably because of its stability in terms of other currencies (Table 1). The gold content of the florin was 3.54 g in 1252, when it was first issued. It amounted to 3.53 g in 1500 and never fell below 3.33 g between these dates. Thus, in 250 years the gold content changed maximally by 6 percent.

TABLE 1

VALUE OF FLORIN IN DIFFERENT CURRENCIES

	1300	1400	1500	Currency
Castille	5.8	66	375	Maravedi
	100	1137.9	6465.5	
Cologne	6.7	42	112	Schilling
	100	630	1680	
Flanders	13.1	33.5	80	Groot
	100	255.2	609.5	
Austria	2.2	5	11	Schilling
	100	225	495	
France	10	22	38.8	Sou
	100	220	387.5	
Hanse	8	10.5	31	Schilling (of Luebeck)
	100	131.2	387.5	
Rome	34	73	130	Soldo
	100	214.7	382.4	
Florence	46.5	77.9	140	Soldo
	100	167.6	301.1	
Bohemia	12	20	30	Groschen (of Prague)
	100	166.7	250	
Venice	74	93	124	Soldo
	100	125.7	167.6	
Aragon	11.5	12.7	16	Sueldo
	100	110.5	139.1	
England	2.7	3	4.6	Shilling
	100	112.5	171.9	

SOURCE: Spufford (1986, Table 1).

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(Bernocchi 1976). The equally stable Venetian ducat was the dominant currency in trade with the Near East (Spufford 1986).

The self-interest of Free Cities and of princes and the competition among them for commerce—or, rather, for the duties, fees, and taxes derived from it as well as the seigniorage to be gained from internationally circulating stable gold or silver coins—motivated the introduction of stable international monies. But this neither that all newly issued coins remained stable permanently nor that a real international monetary order emerged. That had to wait until later. As Pirenne (1951, p. 263) observed:

> The creation of the gros and the minting of gold ... made the circulation of money easier, but did not end the abuse from which it had suffered. The kings and princes continued to alter the coins and to impose on them arbitrarily fictitious values. Their value did not cease to follow a descending course. To sum up, politics has sacrificed economics for fiscal aims. The first appeals made by Nicolas Oresmius in the 14th century for a better understanding of relationships, went unheard. Several centuries had to pass before governments began to follow the principles of a true monetary administration.

The Emergence of the Gold Standard

The gold standard, which became the first truly worldwide stable monetary regime in history, was not planned nor set up by international treaties; it emerged as an unintended consequence of many independent decisions. In fact, the gold standard may owe much to a wrong proposal made by Isaac Newton in 1717 when he was Master of the Mint. During the second half of the 17th century, the market price of gold had fallen in terms of silver, so that, in accord with Gresham's Law, bad money (gold coins) began to drive out good money (silver coins). Newton took stock of the situation in 1699 and recommended a reduction of the price of guineas by up to one shilling. In 1717, he proposed a price of 21s, which was accepted by Parliament in a proclamation of December 22. Newton's appraisal of the situation still proved to be inadequate and the value set for the guinea to be too high. So, in time, silver was driven out of circulation, and Britain moved toward a pure gold standard, which was not legalized before the 19th century (Fearveryear 1963).

The evolution of the gold standard in Britain did not mean the establishment of an *international* gold standard. In fact, in about 1850 most countries were still either on a pure silver or a bimetallic standard. Russia and Austria-Hungary had a fiat paper money regime, as did most Latin American states. In the early 1870s, the newly

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founded German Reich followed Britain's example and adopted the gold standard. Other countries, such as the Netherlands, Sweden, and Norway, went to the gold standard because of the fall in the price of silver (Table 2). The same thing happened between 1874 and 1878 in the member states of the Latin Monetary Union, France, Italy, Belgium, Switzerland, and Greece, which had been on a bimetallic standard. Since gold became undervalued at the official parity, silver began to drive out gold coins. In 1874, a conference decided to

TABLE 2

PRICE OF SILVER FROM 1864–1891

Year	Price of Silver in Pence Sterling
1864	100.00
1865	99.94
1866	99.59
1867	98.68
1868	98.57
1869	98.47
1870	98.68
1871	98.57
1872	98.27
1873	96.54
1874	95.01
1875	92.67
1876	85.95
1877	89.31
1878	85.64
1879	83.50
1880	85.13
1881	84.22
1882	84.11
1883	82.38
1884	82.48
1885	79.22
1886	73.87
1887	72.68
1888	69.59
1889	69.62
1890	77.72
1891	73.42

SOURCES: Until 1885, Soetbeer (1886); 1886–91, Menger (1970, pp. 259–61).

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limit the coinage of silver five franc coins, which implied a *de facto* introduction of the gold standard (Bamberger 1885). Russia, Austria-Hungary, and Argentina moved from a paper money standard to gold in the 1890s, and India, Peru, and Japan also substituted gold for the silver standard. The United States adopted the gold standard in 1878 by returning to the pre–Civil War gold parity, though there were efforts to get a bimetallic standard instead.

It is no exaggeration to assert that most contemporaries saw the international gold standard during the 19th century as one of the great accomplishments of civilization (see, for example, Jevons 1900). For the first time, there was a common international monetary system that would get rid of debasement, exchange instability, and inflationary tendencies, and people were able to base international loans and all calculations on the same common unit of account, gold.

This does not mean that there were no problems. Jevons (1884) and Cassel (1932, pp. 489–99), for example, were concerned about the dependence of the system, especially of the price level and of economic activity on the production of gold and the vagaries of new gold discoveries. Moreover, since Adam Smith, economists had pointed to the waste of resources in using gold as money or as monetary reserves. In several nations, export- and import-competing industries and the silver industry lobbied to maintain paper money or silver money standards or to return to bimetallism. We have already seen that only fixing an undervalued gold parity made the introduction of the gold standard possible in several nations. But around 1900 there was no question of leaving the gold standard. It took the convulsions of World War I to shatter the system. Also, after the negative experiences with inconvertible paper money around 1800 in most countries—and later in Russia, Austria-Hungary, Italy, the Balkans, and Latin American countries—there was no inclination to even think of returning to such unstable systems (Jevons 1900, pp. 229–32). As Adolph Wagner (1868, pp. 46–48) put it in 1866:

> Experiences with paper money until now prove at least that it is possible . . . to give value to a paper money, which cannot be exchanged at will into another money. This may not necessarily and not easily be at a permanently equal value with some metal money; but this would not by itself result in a disadvantage. . . . The obstacles for an equal value, i.e., for maintaining an equal general purchasing power . . . is the impossibility to fulfil the requirements necessary for the strength of this belief. One would have to institute the most reliable guarantees to prevent that paper money would ever be used for financial purposes to create artificial purchasing power for the issuing agency without labor out of nothing; and to secure that it would be increased only according to the true neces-

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> sity of the economy. . . . These guarantees are relative to the first point only given by the absolute impossibility to increase the money arbitrarily without effort. . . . Men would have first to be capable of unlimited self-discipline to resist any temptation to increase money arbitrarily, even if their very existence, or that of the state, were at stake. . . . A somewhat greater security against the abuse of the right to issue money might perhaps be provided by one or the other constitutional form. But this certainly does not amount to a big difference.

Monetary Systems Created by International Treaties

The gold standard evolved out of many independent decisions, most of which did not aim at its establishment. But even in the 19th century, efforts were made to reach "better" monetary systems through international conferences and agreements. The Latin Monetary Union, which was founded in 1865, lasted until 1914. The Scandinavian Union was formed in 1873 and broke up during World War I. There were also monetary agreements between the states of the German Confederation, of the Deutscher Bund, including Austria, before 1866.

All of these international monetary agreements were regional agreements and were concerned with setting certain standards for coinage, the amount of coins to be minted by members states, and the mutual use of coins. For example, the Latin Monetary Union fixed the gold or silver contents of several coins, established a firm relationship of silver to gold at 15.5:1, and stipulated that all governments should accept payment in any of these coins without regard to their national origin (Bamberger 1885). The Scandinavian Union, comprising Sweden, Norway, and Denmark, moved even further, giving the different national monetary units a common name, the krona. The union embraced all subsidiary currency issues of the participating countries. Foreign exchange quotations were discontinued, so that the region could be considered as one country for monetary matters. The agreements between the German states also established firm relationships between the South German and Austrian Gulden and the North German Thaler, by fixing the exact silver contents and weights of these and, implicitly, other coins.

All of these agreements, though limited to coins, unified the entire monetary system. Because deposits and bank notes were convertible into coins at the silver or gold parities, these agreements also implicitly ruled the relationships among other types of money and with the gold and silver coins of all member states. This was not true, however, in cases in which convertibility of paper money was suspended, as in Austria-Hungary and Italy for extended periods and in France

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during the war of 1870–71. During such periods, metallic money was usually traded with a premium.

It should also be mentioned that monetary agreements sometimes faced problems that led to heavy disputes among member states, which had conflicting interests, and to the danger of a discontinuation. This was especially true for the German Conventions and the Latin Monetary Union (see Bamberger 1885). In this respect, they remind strongly of the Bretton Woods International Monetary System.

International Agreements in the Case of Fiat Money Regimes

We have seen that international agreements concerning the monetary regime have been plagued by diverging interests even in the case of gold and silver currencies. Problems are much more severe if national governments or central banks have discretionary control of the supply of fiat monies in their countries. Whereas the powers of monetary authorities are strictly limited in the case of a convertible commodity standard, this is not true for freely manipulated fiat money regimes. Even in commodity standards, governments can change the fineness, weight, and denomination of coins if they have the right to mint. But individuals—especially money traders—will soon find out about any changes and revalue the respective coins in international transactions. As a consequence, the limits of exchange rates among metallic coins are broadly determined by the content of precious metals and the free-market prices of the metals. Thus, even in cases in which no international monetary regime has evolved and no international monetary agreements exist, there is always a tendency in the system to move toward exchange rates governed by these relationships. Exchange rate movements will be smaller than in the case of discretionary national fiat money regimes and subject to stronger controls by competitive market forces.

This difference was already clearly expressed by Adolph Wagner (1868, pp. 43–48):

> But not only unlimited self-discipline, but also omniscience would be necessary to increase the amount of money . . . in such a way, that the increase does not cause a decrease of the value of money. . . . But even the paper money of a single national economy, which would fulfill all these impossible conditions, would still not be a world currency. Its purchasing power . . . would remain limited in space. A world currency would require a world state or at least a kind of federation . . . among the civilized nations. To get these we still have to go a long way. . . . Because of this, one has to forego a permanent paper currency and thus the necessity of an early return to a metallic currency has again . . . been proved.

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Jevons (1900, pp. 230–32) presents quite similar arguments.

Given the existence of fiat paper money regimes controlled by national governments or central banks like those developed in the wake of World War I and the Great Depression, there are only two ways to establish international monetary systems. First, some or all countries but one could fix their exchange rates relative to one other currency. This happened within the sterling bloc when several countries maintained the sterling parities of their currencies and held sterling exchange reserves for the necessary interventions after Britain abolished the gold exchange standard in September 1931. Today, several countries keep fixed exchange rates, such as Hong Kong with the U.S. dollar and Austria with the European Monetary System (and thus mainly with the Deutsche mark), without any international agreements. Such a policy implies, of course, a subordination of national policies to the policies of the reserve currency country and a far-reaching abolishment of domestic discretionary monetary policies. It is also obvious, if more and more countries converge toward fixing their exchange rates vis-à-vis the same currency, that a worldwide international monetary system would emerge.

A second way to reach such a system would be through an international agreement among nations. We know that the sterling bloc was transferred into the sterling area with the help of such agreements, especially after 1939–40. Another treaty led to the European Payments Union (EPU) in the late 1940s and early 1950s and to the European Monetary System in 1979. More important, the Bretton Woods System came about by international agreement. It fixed exchange rates vis-à-vis the U.S. dollar or gold, created the International Monetary Fund with credit facilities available on certain conditions, and tried to set up rules for changing parities and removing exchange controls. It was originally constructed as a weak gold exchange standard giving only monetary authorities the right to exchange dollars at a fixed parity into gold and vice versa at the U.S. Treasury. It had, thus, some rules to limit not only the discretionary policies of ordinary member states, but also of the United States as the main reserve currency country. It is well known, however, that U.S. authorities did not want to be limited in their discretionary powers, so they did not follow the rules of the game and abolished the limited gold convertibility in 1971. President Nixon's decision implied an inflation-biased pure dollar exchange standard as the international monetary system. Because several countries did not approve the rate of inflation implied by the domestically oriented monetary policies of the United States, it is not surprising that the system broke down in 1973. What were the advantages for politicians

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and central bankers of other countries to forego monetary discretion if the international system did not provide price stability or allow them to use monetary policies for employment policies?

Which International Monetary System Should Be Established?

Many economists are convinced permanent inflation can only be eliminated if countries return to a monetary constitution that binds the hands of government and central bank. But there is no agreement among those economists on the nature of the monetary constitution to be substituted. The proposals include schemes for stabilizing the monetary unit in terms of a price index (Fisher 1912, Simons 1948), for constraining the issue of fiat money by a constitutional growth rule (Friedman 1968), for introducing a commodity money (Yeager 1962), and for instituting free banking with no governmental control (Hayek 1976; Vaubel 1978, 1986; White 1987). But as Brennan and Buchanan (1981, p. 64) have emphasized: "The proponents of free market money, competitive monies, commodity money, or rule-constrained fiat issue all agree on the desirability, necessity, [and] acceptability of some monetary constitution."

My discussion (Bernholz 1983) of the political and economic reasons for the inflationary bias of unrestrained governments shows that this bias can be contained only for an extended period by adequate monetary constitutions.[2] The idea that sound monetary constitutions are necessary to limit the inflationary tendencies of unfettered government dates to at least 1800 and has been favored by many economists. To quote Ludwig von Mises (1912, p. 288):

> As soon as only the principle has been accepted that the state is allowed and has to influence the value of money, be it even only to guarantee its internal stability, then the danger of mistakes and exaggerations again at once emerges.
>
> These possibilities and the memories of the financial and inflationary experiments of the recent past have pushed into the background the unrealizable ideal of a money with an unchangeable instrinsic value as compared to the postulate: that at least the state should refrain from influencing in any way the intrinsic value of money.

Even though economists have discussed the reasons for the inflationary bias of central banks and governments and the possible alternatives restricting them by sound monetary constitutions, they have

[2]For a discussion of the behavior patterns of independent central banks, see Frey and Schneider (1981) and Burdekin and Wohar (1990).

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paid little attention to equally important problems. First is the problem of implementing and maintaining a sound monetary constitution, given the political forces working in favor of inflation. The second problem is the need for a stable international monetary order. For example, even if all countries introduced monetary constitutions requiring the central banks to follow monetary growth rules, then these rules might be different concerning the definition of the monetary aggregate to be used, the growth rate, or the relevant base from which to start. Or if the constitution required the stabilization of a price index, countries might differ as to the goods to be included and their weights, not to speak of local differences in prices. Such difficulties can be removed only by international agreements that establish common rules and standards or by converging to or introducing a common commodity standard.

I have already shown how difficult it is to implement and to maintain a stable international monetary system through a worldwide agreement among nations. National interests reflecting voters' needs, the power and composition of interest groups, and different political systems diverge widely and change over time. Politicians and central bankers prefer to have discretionary control of their own money supply. Both factors work against the implementation and maintenance of an international system if the national monetary systems are dominated by governments and central banks. Moreover, the chances to reach stable monetary constitutions are not enlarged by the differences of opinion among economists, especially among those advocating monetary reforms.

Finally, it is difficult to move toward a stable international monetary system. The gold standard emerged; it was neither planned nor constructed. The only other worldwide international monetary regime, the Bretton Woods System, was created through international agreement. Bretton Woods imitated the gold standard in many respects and would not have been possible without its example. The international agreement creating it was politically feasible, since politicians could provide their constituents with a better solution by moving away from exchange controls, multiple exchange rates, and bilateralism, which had been created by short-term national interests during the Great Depression. But from the beginning the Bretton Woods agreement provided for many loopholes to allow at least limited domestic monetary discretion. It proved not to be an inflation-stable monetary regime, but it also allowed governments and central banks, especially of the United States, the reserve currency country, to follow discretionary monetary policies oriented by domestic

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political aims. Such conflicting policies led to an accelerating number of crises and finally to the breakdown of the system in 1973.

If we draw our conclusions from the historical evidence and the politico-economic relationships, we have to admit that the chances are rather poor of reaching a stable international monetary regime by a general treaty among governments. It seems naive to assume that governments would move toward an adequate international agreement because of the advice given by economic experts. As a consequence, a somewhat different approach will be taken. This approach does not try to describe or analyze the characteristics of a supposedly superior monetary regime, for example, of a commodity standard or free currency competition (compare Selgin 1988). We rather endeavor to formulate six conditions that would make the emergence of a stable international monetary regime more probable if they were fulfilled. These conditions are as follows:

1. The influence of governments and central banks on money must be reduced to remove or at least mitigate the force of political influences on monetary developments. The reduction of these influences, however, should take place gradually to minimize political opposition.
2. The differences of opinion among monetary economists concerning the monetary constitution to be selected seem to show that not one of them has and can have a knowledge of the "best" monetary regime available.
3. This implies that the search processes of competition should be allowed to play an important role in trying to find better monetary systems.
4. Because we cannot know whether innovative developments will always be beneficial, the safety net of the present monetary regime should be allowed to compete with emerging new solutions.
5. Condition 4 would also make it easier to get sufficient political support for deregulating the creation of money.
6. The different proposals of economists should be allowed as possible solutions to emerge from the competitive process.

The only institutional framework that would fulfill these conditions is one that deregulated the creation and use of money (see Vaubel 1986) without abolishing the present monetary systems by law or decree. It seems that incorporating the following postulates into national constitutions or laws would be sufficient to reach this purpose:

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1. Banks should be allowed to create any claims they want against themselves, including bank notes.
2. Everybody should have the right to stipulate in contracts any unit of account and means of payment he and his partner(s) agree on.
3. Everybody should have the right to keep his books and do his accounting in any unit of account.
4. Everybody should have the right to pay taxes in any freely convertible currency at the exchange rate valid at the date the payment is made.
5. Everybody should have the right to index any future obligations with any index he and his partner(s) agree on.
6. All foreign exchange and payments controls and all limitations on the use of foreign and domestic currencies should be forbidden by the constitution.
7. Changes in these rules should be possible only if two-thirds of the members of both chambers of Parliament and of those voting in a popular referendum agree.

These rules would allow not only the free international competition of existing national currencies but also the development of new types of monies created by banks. These monies could be based on a single commodity or on baskets of commodities, on shares, on stabilizing some index, and so forth and could prove their advantages or disadvantages in freely competing with other existing and emerging monies. The competition among national currencies and with other emerging monies would limit the possibility to overexpand the monetary base of national currencies for political purposes, for with flexible exchange rates bad money would be replaced by better money. In fact, there would even be a motivation for improving national monies, because a wider use of them would increase seigniorage. As a consequence, proposals like Friedman's (1968) concerning the stabilization of the growth rate of money could be tried. But the use of national currencies might be phased out if newly created private monies proved to be more appealing to the public.

It might be argued that the abolishment of many banking regulations would remove the protection that customers presently enjoy. First, however, it is not clear whether private insurance schemes would not emerge from the competitive process among banks. Second, it seems probable that the instability of present currencies has done more harm to most members of the public than would follow from the abolishment of the respective regulations. And third, one could counter these dangers by introducing, for example, unlimited

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liability of the bank owners in case of bankruptcy. Other legal provisions that do not hinder the creation of money and the competition of banks would also be conceivable.

This proposal has the advantage of taking into account the lessons of history. We have seen that the only stable worldwide international monetary system, the gold standard, was not planned. It seems to be very difficult, if not impossible, therefore, to institute and maintain a stable monetary system by international agreement. However, if nations independently institute constitutional rules like those stated above, then the conditions would be established for the emergence of stable money without excluding international agreements. But, it should be emphasized that this approach to international monetary order does not require nations to transfer sovereign rights to international authorities or organizations. Finally, this approach would tend to remove the monetary system from government control without postulating a move that might prove not to be politically feasible.

Conclusion

I have shown that historically the development of stable international monetary systems has been slow and has always been threatened by government interventions. Such systems usually emerged spontaneously and were not created by agreements among states. Discretionary government control of money always led to an inflationary bias of the monetary regime. The only inflation-stable, worldwide monetary system that existed was the pure gold standard. And even that regime may have been plagued by too high a variability of real variables like real growth rates of GNP, employment, and real interest rates. The other worldwide system, the Bretton Woods System, has been created by international agreement, but it was not an inflation-stable regime and always contained the seeds of its own destruction, since it did not adequately limit the discretionary power of member states, especially of the reserve currency country.

Efforts to promote a stable international monetary system should take into account the lessons of history. Economists should try to encourage legal and constitutional frameworks in nations that would encourage the emergence of stable monies and a corresponding international monetary order. For this purpose, several conditions allowing the creation and use of competing monies are proposed. It is my conviction that the introduction of such rules in any treaty striving for European Monetary Unification would be a big step forward toward the goal of a stable international monetary system.

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Worldwide Currency Competition: A Guarantor of Stable Money

Herbert Giersch

Peter Bernholz's interesting paper has three parts: it assesses the present global monetary order, summarizes historical experiences and lessons gained from alternative monetary regimes, and makes a proposal for future monetary reform. The historical part, which I think is the strongest part of the paper, examines the link between diagnosis and therapy. In a nutshell, the lesson is that the gold standard was not the result of a grand design but of evolution.

Bernholz uses the concept of evolution to propose a new approach to international monetary reform—one based on framing a monetary constitution and then letting a new monetary order emerge spontaneously. In this comment, I will focus on Bernholz's evolutionary approach to international monetary order; but, first, I wish to consider the case for flexible exchange rates—a case that was not adequately addressed in Bernholz's paper.

The Case for Flexible Exchange Rates

Bernholz complains about erratic "short-term moves of nominal exchange rates," "large medium-term swings of real exchange rates," and protectionist pressures arising from overvaluation. From these remarks, it appears that he favors fixed exchange rates. But this impression is later dispelled when he tells us that even though the present exchange rate system has some negative effects on welfare, "this does not mean that a system of flexible exchange rates with more adequate monetary constitutions—and, thus, lower inflation and less volatility of real exchange rates—may not be superior to a fixed exchange rate system, especially in absorbing real shocks."

Cato Journal, Vol. 10, No. 2 (Fall 1990). Copyright © Cato Institute. All rights reserved.

The author is Professor Emeritus at the University of Kiel and former President of the Kiel Institute of World Economics.

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Flexible exchange rates help discipline national monetary authorities. Markets react to changes in monetary policy and act as a negative feedback mechanism that forces authorities to learn from their mistakes. A more complete analysis on Bernholz's part would have to consider this disciplinary function of floating rates and the increasingly important role played by international capital movements. The globalization of capital markets surely had not been foreseen when the Bretton Woods System was devised in 1944. Capital flows that change direction or accelerate are bound to bring about changes in real exchange rates and fluctuations in output. We have known this since the Keynes-Ohlin debate on the German reparation issue of the interwar period.

From this I conclude that we could have exchange rates that are close to purchasing power parity, if at all, *only* if governments refrained from effectively competing in international capital markets. The dollar, for example, was bound to rise at the beginning of the 1980s when the United States became a magnet for international investment. The increase in U.S. imports was the means to bring about the transfer of real resources when investment increased over domestic savings. I doubt that this resource inflow really harmed American producers in the import substitution sector or that it was the *true* cause of protectionist dangers. Mercantilists focusing on trade rather than capital movements, of course, have a different view of the world. I tend to maintain that world economic growth has become more and more dependent on capital mobility. It may already be that trade balances are more dependent on autonomous capital flows and that capital flows serve to finance current account balances determined otherwise.

To emphasize my point, I am inclined to state the proposition that constant real exchange rates require utopian conditions. Let me mention three of them:

1. Governments must form a cartel that binds them not to engage in activities that make domestic locations more attractive for international investment, for example, cutting business taxes.
2. There must not be any competition among national labor markets. The U.S. labor market, for example, almost perfectly adjusted to the demographic bulge and to the increasing supply of female workers; it showed more real wage flexibility than labor markets in Europe. For a long time, there were competitive real wages in the United States and excessive real wages in Europe, which raised the marginal efficiency of investment in the United States and induced a transatlantic capital flow.

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3. The norm of constant real exchange rates is not compatible with differences in per capita growth. Rich countries—and rich regions within a country—tend to be expensive, and countries and regions catching up with richer competitors become more expensive, whether by relative inflation at fixed rates or by an upward revaluation of their currencies.

In this context, it is worth noting that the move to flexible exchange rates that began at the end of the 1960s in West Germany was partly motivated by the recognition that catching up had been achieved and that it was better for Germany to adjust by an upward revaluation of the exchange rate than by a rise in the domestic price level. Some proponents of flexible exchange rates, like myself, have always been guided by concerns of price-level stability; and I continue to believe that flexible exchange rates promote monetary competition, in contrast to a monetary cartel supporting a system of fixed rates.

The Case for Competing Currencies

Bernholz's proposal for international monetary reform calls for more rather than less currency competition, and more rather than less exchange rate flexibility and volatility. What Bernholz proposes is free choice of currencies for money-holders and free-market entry for the suppliers of money. Anything goes. I am in full sympathy with this position. What I miss in his paper is, first, a serious attempt at arguing the case for free money by making full use of the existing literature and, second, an application of the insights gained to the problems of currency unification in Europe. I shall briefly try to fill these gaps. Those who want to go deeper should consult Roland Vaubel's excellent 1978 book *Strategies for Currency Unification.*

The case for free money is simple. In the same way that free competition among producers of goods brings profit rates close to zero, free competition in the supply of currency reduces the inflation tax and the seignorage gain. In the ideal case, a zero seignorage would let the price level fall at the rate of the real rate of interest, allowing people to earn interest on cash. The private costs of holding money would equal the social costs of producing it.

An alternative outcome, as probable as the first, is a stable price level plus the payment of interest on deposits with commercial and central banks (including minimum reserves). This would come about "if a money's stability as a standard of value is found more important by money users than the little income that could be earned by holding notes and coins in a money of (slowly) increasing purchasing power" (Vaubel 1978, p. 55).

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In the case of money, the competitive output is not larger than monopolistic output, contrary to what happens in goods markets. But this applies only to the *nominal* output. In real terms, the outcome is different: The competitive money supply is *larger* than the monopolistic supply, just as it is in goods markets (Vaubel 1978, p. 56).

The popular, standard objection that a competitive money supply is inflationary ignores the preference of people to hold stable money. It also ignores the need for suppliers of money to maintain people's confidence in the stability of its purchasing power, be it through sound performance or contractual guarantees like convertibility into some other assets or goods. The hope is that private enterprises have a longer time horizon than democratically elected governments. *Value guarantees* (indexation) protect the holder against deliberate inflation by the issuer. They can best be given in the form of convertibility into legal tender at an exchange rate reflecting constant purchasing power.

Parallel currencies compete with legal tender just as parallel economies compete with overtaxed and regulated official economies. The Deutsche mark, for example, was a parallel currency in East Germany before the currency unification in July 1990. The ECU may have opportunities to become a competitor in the weak currency parts of the EC, though not in Germany. Perhaps the ECU has already exerted some pressure toward hardening national currencies, thanks to its Deutsche mark component. The good currency may not drive out bad currencies if the latter defend themselves by becoming better. The disequilibrium exchange rates needed to validate Gresham's Law may thus not fully materialize.

Let me add two observations with relevance to the European scene. The first concerns East Germany. I would have preferred a parallel currency approach in which East Germany would have had an interest in upvaluing its exchange rate by privatization and, thus, by attracting capital. My second observation refers to European monetary unification. The ECU, I repeat, is no competitor to the Deutsche mark in West Germany because it is considered to be weaker. In order to make it an efficient competitor, I still support the proposal I made in Brussels in 1975 when I was part of the Study Group on Economic and Monetary Union (Giersch 1975): Redefine the ECU to make it a "compensated" type of currency unit. Stipulate that the number of French francs in the ECU basket will automatically be raised by 1 percent as soon as the French official price index is calculated to have increased by 1 percent. Do this in the case of any other currency constituting the ECU, and do the reverse for a currency that is associated with a declining price level. By definition,

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the "compensated ECU" would be stable. The question then is: If Europe wants one money and if price-level stability is to be the optimum characteristic of money, then why does Europe not move in this direction?

One answer is that politicians and central bankers, like members of the same trade since Adam Smith and before, are more in favor of cartels than of competition. The EMS is such a cartel, under the Bundesbank's barometric price leadership and with a monetary behavior of its members designed to maintain fixed exchange rates, without fixing quantities of supply. The aspiration is merger; and if central bankers are asked to make proposals for merger, they vote for independence without sanctions. In essence, this is the Delors plan. To be sure, price-level stability is promised as a goal, but an ECU as an index-linked stable unit of account will not be allowed or proposed. It would be too rigid a control parameter for central bankers.

The possible objections against a "compensated ECU" are rooted in the same ground as the objections against issuing index-linked bonds. In the early 1970s, when inflation accelerated and the indexation topic came to the fore, the argument against indexation was that it would further accelerate inflation. The kernel of truth behind this assertion is that any destruction of money illusion and any freedom to evade the inflation tax will accelerate inflation in the case that central banks must—or want to—collect an inflation tax in a given quantity of goods and services. Emigration from the inflation tax area, so to speak, was not to be permitted and will not be easily allowed in the future.

Emigration with portfolio is the individual citizen's only weapon. The larger the monetary area is, compared to the rest of the world, the less power an individual citizen can exercise by threatening to move out. Barriers to emigration, including high transaction costs, are like tariff protection for the producers of money. Banking regulations can effectively prevent the supply of better money by private banks. This is also an equivalent to tariff protection. Therefore, it makes a great deal of sense that Hayek (1976) calls for a "Free Money Movement" in analogy to the Free Trade Movement of the 19th century.

This movement is already under way as part of a general trend toward greater mobility of resources across frontiers. Declining communication costs make the world economy shrink, reducing the power of national governments and enlarging what Hayek calls "the extended order." Governments do not only face actual competition; potential competition from innovation can be equally as strong. And the pace of technical progress, including financial innovation,

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accelerates with the growth of knowledge. This growth depends on the absolute number of intelligent people participating in the international division of labor among minds that recognize the importance of private property and a rule of law. The growth of this number makes me optimistic about the prospects of worldwide currency competition as a guarantor of stable money. In sum, there can be stable money, but there cannot be stable real exchange rates. We can only eliminate changes in real exchange rates caused by currency substitution, that is, changes in the monetary rule.

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A Monetary Constitution for Europe?

Antonio Martino

> The most savage controversies are those about matters as to which there is no good evidence either way.
>
> —Bertrand Russell

The discussions on European monetary unification appear to confirm the wisdom of Bertrand Russell's insight. Both supporters and opponents of the idea are forced to resort to essentially *theoretical* arguments, as there is no *specific* empirical evidence on the merits of the various alternatives. In what follows, after looking at some advantages of a common currency for Europe and at the objections that are being raised against it, I will say something about the transition process as currently envisaged.

The argument of this paper is that a common European currency may be desirable or undesirable (feasible or unfeasible) depending on the kind of monetary constitution (or lack of it) that is adopted.[1] On the one hand, a monetary rule appears to be a necessary precondition for moving toward a common European currency. If, on the other hand, money continues to be used as an instrument of discretionary policy, monetary unification is unlikely to be achieved. Agreement on the need for a monetary rule is far more important than the choice of the actual monetary constitution. Therefore, little will be said about the type of rule to adopt.[2]

Cato Journal, Vol. 10, No. 2 (Fall 1990). Copyright © Cato Institute. All rights reserved.

The author is Professor of Economics at the University of Rome, where he holds the Chair in Monetary History and Policy. He is also a Professor of Economics at the Free University Law School (LUISS) in Rome.

[1]By monetary constitution I mean a regime "in which the discretion of the policymaking authorities is constrained, at least in the short run" (Leijonhufvud 1987, p. 130).

[2]As J. M. Buchanan (1987, p. 124) pointed out, agreement on the need for a monetary constitution should take precedence over a determination of the specific kind of rule to be adopted.

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Advantages of a Common Currency

> Monetary union in Europe is capable of being good, bad or indifferent. All depends on precisely how it is done.
>
> —*The Economist* (1989)

Would Europe benefit from a common currency?[3] If, for the moment, we ignore both the difficulties of achieving a common currency and the preoccupations with the conduct of monetary policy after its establishment, the answer is positive: Europe and the world would probably benefit a great deal.

Interestingly enough, most commentators seem convinced that the *only* advantage of a common currency for Europe would be the reduction of uncertainty in foreign exchange markets.[4] For example, the governor of the Bank of England (Leigh-Pemberton 1989, p. 12) recently stated:

> The benefits [of a single currency] are fairly easy to identify. Where prices within an area are quoted in a common currency, uncertainties arising from unpredictable exchange rate fluctuations within the area are removed. In consequence, business decisions are not complicated by a need to take account of possible exchange rate changes within the currency area, which would help to improve confidence, particularly in relation to investment decisions with long time horizons. Furthermore, there would no longer be any transactions costs associated with exchanging one currency for another or with trying to hedge against changes in rates.

I do not wish to deny the importance of reduced uncertainty in foreign exchange markets and of a saving in transactions costs, but it is reductive to see no other advantage in a common currency for Europe. As I shall try to show, there are other, possibly more relevant advantages. I also believe that it is this reductive interpretation of the benefits of a common currency that has led to the fallacious identification of monetary unification with fixed exchange rates, which is responsible for some of the absurdities in the various political proposals. Let me list some of the main advantages other than the reduction in transactions costs.

A common European currency could provide an alternative to the U.S. dollar as an instrument of international liquidity. The "national" currency of such a large market could achieve the same degree of

[3]What follows draws on my 1989 paper and, to a lesser extent, on previous work. See Martino (1971a, 1971b, 1976, 1977, 1978a, 1978b, 1986, 1988).

[4]Apparently, this has been the consensus among professional economists and public opinion. See, for example, Vaubel (1979, p. 19) and *The Economist* (1989, p. 20).

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acceptability presently enjoyed by the dollar. The competition between the two major international currencies would result in a kind of "Gresham's law" in reverse, because the more stable currency would be preferred in international transactions. The overall stability of the international monetary system would increase.[5]

Europe would benefit in that it would be able to use its own currency, rather than the U.S. dollar, as a reserve asset.[6] Needless to say, this would not be a minor advantage and might be at least as important as the saving in transactions costs. The United States would also benefit to the extent that a monetary system based on two currencies would make the external value of the dollar less volatile.

Inside Europe, a common currency would eliminate problems with the balance of payments, making the "adjustment process" smooth and automatic. There would be no balance-of-payments problems between, say, England and France because both countries would be using the same currency. National economic policies, therefore, would be relieved of one of their present worries. Finally, scarce resources presently dissipated in the collection, analysis, and discussion of intra-European balance-of-payments statistics could be diverted to more productive uses.

With a common European currency, provincial considerations would play no role in monetary decisions, which would aim at overall stability rather than respond to "local" pressures. As a result, for example, there would be only one rate of inflation, not twelve. This is a very important consideration. I know of no economist who is willing to argue that a proliferation of regional currencies in a given country would increase overall monetary stability on a national level.[7]

A common currency would make the liberalization of capital movements within Europe automatic and irreversible, with all of the

[5]For the analysis of currency competition, see, for example, Hayek (1976), Vaubel (1986), and Dowd (1988).

[6]If Europe had a common currency, there would be one central bank rather than twelve. This might result in a considerable saving if the European central bank would cost less than the present twelve national central banks (this is not clear, however, considering the lavish way eurocrats tend to treat themselves). Even more important, the dollar reserves presently used by the national central banks would become unnecessary and, if the common currency were allowed to float freely in international markets, the European central bank's reserve requirement would be very small.

[7]It is in the light of this argument that one should read *The Economist's* (1989, p. 20) point: "Simply ask whether America would be better off with separate currencies for each of its states." Strangely enough, the only problem that the authoritative publication sees in having the United States use 50 different currencies is the cost of converting one into another.

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known advantages in terms of personal liberty and economic efficiency. It would be as difficult to restrict capital movements in a region that uses the same currency as it is in a given country.

These are not all of the benefits to be gained from a common currency for Europe, but they are possibly more important than the advantage of reduced uncertainty in foreign exchanges and of savings in transactions costs. Furthermore, although the smoothness of the adjustment process and the elimination of balance-of-payments problems could also be achieved by a system of freely floating exchange rates among European national currencies, all the other advantages can be attained only by a single currency for Europe.[8]

Objections to a Common Currency

Several objections have been raised to adopting a single European currency. While some of these objections are undoubtedly well founded (if not insurmountable), others are definitely dubious. The most common objection is that "money does not manage itself"; that is, discretionary monetary management requires political control. Europe's present political institutions are inadequate for that kind of task. A variation on this theme is that the surrender of monetary sovereignty is unjustifiable at this point, since existing European political institutions could not guarantee member states that a common currency would be managed in a way in which they would approve.

Another objection is that a common currency would be premature, given the present heterogeneity of European national economies. Monetary unification, according to this view, should follow, not precede, "economic integration" (whatever that means).

A third objection holds that monetary unification would benefit "high-inflation countries" and harm "low-inflation countries." The idea is that with a common European currency inflation in Europe would settle at an average of existing national inflation rates.

Finally, there is a problem that is seldom explicitly stated: Money creation is an important source of revenue for national governments, and they are not ready to give it up easily.

[8]If these potential advantages are taken into consideration, then the evaluation of the performance of the European Monetary System becomes less favorable. Even granted that the "European Monetary System has not failed," because "the potential for an inflationary bias predicted by many economists has not materialized" and "has achieved lower exchange rate variability" (Fratianni 1988, p. 489), it is also true that none of the advantages of a common currency mentioned above has been achieved. Thus, Fratianni's conclusion that it is not clear whether the EMS has been a success is probably too benign.

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Are the Objections Valid?

None of these objections is insurmountable, and some are totally false. For example, different regions of the same national economy are often heterogeneous, yet this does not prevent them from using the same currency. Furthermore, no one has advocated separate regional currencies as an instrument to reduce national heterogeneity.

A different version of this argument draws on Keynesianism: A monetary union would prevent "individual member countries from each attaining their optimum combination of inflation and unemployment on the so-called Phillips curve" (Vaubel 1979, p. 20). As Vaubel pointed out, however, the "trade-off between inflation and unemployment has disappeared," and few economists believe that much good can result from monetary instability. From this point of view, therefore, Vaubel's (1979, p. 20) conclusion seems to be as valid today as it was in 1979: "If national monetary policy can no longer be used to raise employment, the economic cost of joining a monetary union must be small indeed."

In addition, there is no reason to suppose that a common currency would result in an inflation rate that would equal the average of today's national rates. If Europe adopted a common currency, it would have one rate of inflation (rather than twelve), which would be "high" or "low" depending on whether the rate of growth of the money supply at the European level was "high" or "low." Classifying countries as having "high inflation" or "low inflation" is highly misleading, because it suggests that somehow the degree of monetary stability or instability of a country is determined by some "inevitable law of historical destiny" and that it has nothing to do with the country's actual monetary policy. Monetary history provides irrefutable evidence that this is not the case.

It seems to me that there are only two valid objections to a common European currency. The first is related to the use of money as an instrument of discretionary policy, and the second is connected with its use as a source of revenue by European national governments. Before discussing these, however, I shall make a few remarks on the transition process and the Delors Report.

The Delors Report

> It may very well be that European monetary union would be a great achievement, but that the road by which we are trying to reach it is conducive to serious breakdowns and accidents and, indeed, does not lead to its ultimate destination. What must worry all advocates of

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> European integration is precisely that the choice of an unworkable strategy will—again, and this time fatally—discredit the whole idea of a united Western Europe.
>
> —Roland Vaubel (1979, p. 19)

Vaubel was right. Even today, much of the discredit surrounding the idea of a common European currency is due to the clumsy political attempts at planning a strategy for the transition. This is as true of the earlier efforts as it is of the latest of these ill-conceived political attempts: the Delors Report. Patrick Minford (1989, p. 28) has judged the report to be "a monstrous conspiracy of centralism, mounted by an *ad hoc* alliance of central bankers and bureaucrats whose interests wonderfully coincide in this assault on consumer choice and democratic rights." These are strong words. But there is no doubt that the report lends itself to public choice analysis (Vaubel 1989) and that it offers no small amount of entertainment to those of us who are inclined to question the superior wisdom of bureaucrats and politicians.

It is true, as Minford (1989) has stressed, that the Delors Report marks a departure from the liberal philosophy of the European ideal (as most recently reconfirmed by the Single Act) and that it embraces a "statist" approach to European money.[9]

The statist bias is probably a consequence of the report's original sin: identifying monetary unification with fixed exchange rates.[10] It is an old mistake that was the basic assumption of the 1970 Werner plan, the 1972 "snake," and the present European Monetary System. As for the Delors Report, it believes that "irrevocably fixed exchange rates between national currencies" and "co-ordination of policy between separate national authorities" are necessary (and sufficient?) first steps toward monetary union. Once fixed exchange rates are attained, the report maintains, monetary unification will be completed.

[9]The Single Act elicited the following accolade from Victoria Curzon Price (1988, p. 41): "The Single Market based on the White Paper and the Single Act is a fantastic dream, a pure exercise in deregulation, the devolution of power to the market and economic federalism. It is perhaps one of the best, most market-oriented blueprints for economic cooperation that has ever been devised." By contrast, the Delors scheme would require a centralized network of regulations, even on the decisions of national governments and monetary authorities. It is an interventionist's dream and a liberal's nightmare.

[10]See the Delors Report (1989, p. 10). Strangely enough, this identification is explicitly accepted by *The Economist* (1989, p. 18): "A fully fixed system would eliminate the bands within which the currencies are allowed to fluctuate. Monetary union would then go one step further by adopting a single currency."

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Despite the experience of the Werner plan, there is still a widely held belief that fixed rates are almost indistinguishable from monetary union and that they are a necessary step toward that goal. This view is unacceptable. In the words of Milton Friedman (1968, pp. 271–72):

> The basic fact is that a unified currency and a system of freely floating exchange rates are members of the same species even though superficially they appear very different. Both are free market mechanisms for interregional or international payments. Both permit exchange rates to move freely. Both exclude any administrative or political intermediary in payments between residents of different areas. Either is consistent with free trade between areas, or with a lessening of trade restrictions.
>
> On the other hand, national currencies linked by pegged exchange rates, whether or not through the mechanism of gold, and a system of variable exchange rates, controlled and manipulated by governmental bodies, either through an adjustable peg or day-to-day market operations, are also members of the same species. Both are interventionist standards. Neither, in my opinion, is consistent with a permanent lessening of barriers to international trade, but only with oscillating barriers as nations shift from surplus to deficit.

Furthermore, although a single European currency automatically implies a single monetary *regime* and, therefore, is immune to balance-of-payments problems, a system of fixed exchange rates among different national currencies does not.[11] It can survive if, and only if, it succeeds in imposing coordinated patterns of behavior on all member countries. This last possibility (witness the fate of the Werner plan) is rather remote.[12]

Finally, it is not true that fixed exchange rates would bring Europe closer to monetary unification. In fact, the opposite might happen.[13] Under fixed exchange rates, domestic policy goals are at times incompatible with external balance. When such a dichotomy arises, the alternative to changing the exchange rate is to impose the burden of the adjustment process on domestic macro-variables. Equilibrium in the balance of payments is then achieved without any change in the exchange rate parity but at the cost of sacrificing domestic stability.

[11]Friedman has repeatedly argued that the two necessary and almost sufficient conditions for disequilibria in the balance of payments are fixed exchange rates and autonomous national central banks.

[12]See Vaubel (1979, p. 25)

[13]Sir Alan Walters (1988, pp. 505–6) has argued that "compared with a floating system, the EMS entails a considerable politicization of exchange rates. . . . If the ultimate objective is the monetary integration of Europe through a European Central Bank in a single currency area, then the EMS seems to be hardly a step in the right direction. It creates too many tensions, both economic and political."

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Such a choice is neither desirable nor likely. Should a country be forced to choose between pursuing domestic policy goals or adhering to "irrevocably fixed rates," it would most likely let the exchange rate adjust to a new equilibrium. The arrangement suggested by the Delors Report, therefore, is unlikely to succeed. Needless to say, the failure of the authorities to maintain their "irrevocably fixed rates" for an indefinite period of time would result in frustration and would discredit the idea of monetary unification.

The crucial error of identifying fixed exchange rates with monetary unification is probably the result of a mistaken concept of "gradualism." Gradualism is a very useful political tool, but it can be applied only to problems that have a *divisible* solution. A common European currency is indivisible: We either have it or we do not, but we cannot have just a bit of it.[14] It has been possible to liberalize trade gradually, because tariffs are divisible and can be reduced progressively, but I do not see how a common currency can be divided into separate allotments to be incrementally added to the existing bundle. In any case, fixed exchange rates do not represent the "partial" creation of a common currency.

Would a European Currency Be Part of a Fiscal Constitution?

> Money can be a potent tool for controlling and shaping the economy. Its potency . . . is exemplified . . . by the extent to which control over money has always been a potent means of exacting taxes from the populace at large, very often without the explicit agreement of the legislature.
>
> —Milton Friedman (1968, p. 174)

A major obstacle in the introduction of a common European currency—one that lends credibility to the view of the governor of the Bank of England that "the establishment of a single currency area in Europe . . . remains distant" (Leigh-Pemberton 1989, p. 26)—is that money creation is an important source of revenue for national governments, and we must assume that they are reluctant to give it up. But this would also be one of the main advantages of a common European currency. Some supporters of a united Europe, in fact, saw this as the major reason for having a common currency (Einaudi 1985, pp. 102–3).

[14]This does not imply that its introduction cannot be gradual. See Vaubel (1979, pp. 28–30).

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If Europe had a common currency, this would in and of itself represent a significant change in the existing fiscal constitutions of national governments. Those governments would have to forego the use of inflationary finance, the "inflation tax," and debt monetization to finance public spending. As Luigi Einaudi maintained, it would be a substantial improvement over present fiscal procedures. Of course, it is an open question whether national governments can be persuaded to give up such a source of revenue. This problem is not explicitly discussed in the Delors Report, which does not address the question of whether a constitutional framework is needed, but we are reminded that there must be a "system of binding rules governing the size and the financing of national budget deficits." The unresolved question is: How are national governments going to be persuaded to give up such a source of revenue?

A European Monetary Constitution

> The main costs [of monetary union] arise from the loss of autonomy over domestic monetary policy.
>
> —Robin Leigh-Pemberton (1989, p. 12)

> Who would control such a central bank?
>
> —Patrick Minford (1989, p. 28)

The preoccupations with the issue of monetary sovereignty are entirely justified. Money matters and, as Milton Friedman has often repeated, it is too important to be left to central bankers. The reasons that we worry about national central bankers managing a nation's money are even more valid in the context of a single currency for Europe. Monetary mismanagement on a national level can be a disaster; on a European level, it would be a catastrophe of unbearable proportions.[15] Moreover, the argument that binding rules are "undemocratic" because they prevent "elected officials from responding as best they can to the wishes of the electorate" obviously does not apply to the case of Europe.[16]

The problem arises because, with the end of the gold standard, money has become an instrument of discretionary policy to an extent that had been inconceivable. Discretionary manipulation of monetary aggregates by "independent" central banks can produce procyclical rather than anti-cyclical consequences. Instead of achieving

[15]See *The Economist* (1989, p. 20).

[16]See Leijonhufvud (1987) for a criticism of such an argument.

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a higher degree of stability, monetary policy becomes an autonomous source of instability.[17] This in no way implies incompetence by monetary authorities. Even the most competent central banker does not possess all the knowledge required to make a discretionary anticyclical monetary policy succeed. Information about the workings of our macroeconomic systems is inadequate, short-term predictions are seldom sufficiently reliable, decisions may be untimely, and lags in the effects of monetary changes are largely unknown in advance.[18]

In any case, the outcome of discretionary monetary policy in terms of increased economic instability—already harmful at the national level—would be disastrous at the European level. It is hardly surprising, therefore, that so many people consider that risk unacceptable and oppose a common currency for Europe altogether.

The need to constrain discretion in the conduct of monetary affairs has long been recognized. From the pioneering paper of Henry C. Simons in 1936—which argued that "an enterprise system cannot function effectively in the face of extreme uncertainty as to the action of monetary authorities"—to modern times, many economists have supported the view that monetary policy should be entrusted to rigidly specified rules rather than to the discretion of "authorities."[19] Public choice theorists, for example, argue that only a constitutional set of rigid rules can prevent the ordinary working of political incentives from resulting in monetary instability.[20] For them, "the absence of an explicit monetary constitution is unacceptable" (Brennan and Buchanan 1981, p. 65). As Friedman (1968, p. 190), the main proponent of a monetary rule, concluded:

> If . . . we cannot achieve our objectives by giving wide discretion to independent experts, how else can we establish a monetary system that is stable, free from irresponsible governmental tinkering, and incapable of being used as a source of power to threaten economic and political freedom?
>
> A . . . possibility is to try to achieve a government of law instead of men literally by legislating rules for the conduct of monetary policy. The enactment of such rules would enable the public to exercise control over monetary policy through its political authori-

[17]In other words, it is not enough to say that empirical evidence does not support the view that stabilization policies have had a stabilizing effect on the economy (Romer 1986). The problem is that empirical evidence suggests that they may have had a *de*stabilizing effect. See Friedman (1984, pp. 33–34).

[18]See Bradley and Jansen (1989, p. 37) and Leijonhufvud (1987, p. 131).

[19]See, for example, (Leijonhufvud 1984).

[20]See Brennan and Buchanan (1981, p. 58) and Dowd (1988, p. 21).

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ties, while at the same time preventing monetary policy from being subject to the day-to-day whim of political authorities.[21]

A common European currency would be desirable if its adoption meant an end of discretionary short-term policy. Should European nations agree on some kind of monetary constitution, making discretionary manipulation of monetary aggregates impossible, then a common currency for Europe would greatly increase overall stability *both* in Europe and throughout the world. One could think of a rule fixing the growth rate of some monetary aggregate to a predetermined level and mandating its continuation for an extended period of time (say, three to five years).[22]

The adoption of a monetary rule would be highly desirable per se if it would eliminate the variability of monetary growth, with its accompanying economic instability and uncertainty. But it would also be the solution for the creation of a common currency for Europe. All the justified worries about the surrender of national monetary sovereignty to a European central bank would lose meaning if money was entrusted to predetermined and agreed upon rigid rules rather than to the whim of policymakers possessing discretionary power. Furthermore, all the advantages of a common currency for Europe could be attained.

The problem is that even among those who believe in rigid monetary rules, there is no general agreement on the specific type of rule to adopt.[23] This is less important, however, than the decision to have a rule at all. Once the principle of a discretionary manipulation of monetary aggregates by an "independent" European central bank is rejected and a rigid monetary rule is introduced, the specifics of the rule can be progressively improved upon, as experience dictates. The main point to be made about rules is that there is no such thing as the "ideal" rule, because as our knowledge progresses, new devices are created that can replace older arrangements.[24]

[21]See also Langfeldt, Scheide, and Trapp (1989, p. 40).

[22]A monetary constitution would also impose fiscal responsibility on national governments, thereby achieving two goals at once. In this case, Jerry Jordan's (1986, p. 741) opinion, according to which a fiscal reform is needed in order to achieve the desired monetary reform, would not apply. The monetary reform would achieve both.

[23]Personally, I agree with Langfeldt, Scheide, and Trapp (1989, p. 40): "An important element in a policy rule is that the central bank uses a monetary aggregate that it can control with sufficient precision. Broader aggregates (M1, M2 or M3) can be influenced through changes in the monetary base, but the link seems to become weaker the broader the measure is. So it appears best to use the monetary base which reflects precisely the actions of the central bank."

[24]Friedman (1968, pp. 193–94) explicitly recognized this.

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In other words, once the principle of entrusting money creation to a rule is accepted, the choice of the best possible rule will be determined by accumulating experience and analytical progress.[25] Regardless of the kind of rule adopted, it is essential that the target growth rate of the chosen monetary aggregate is adhered to for several years (to favor stable expectations). The concrete design of a European monetary constitution would also have to consider the problem of enforcement, so that it should contain the principle of accountability of the person(s) in charge.[26]

Conclusion

A common currency for Europe could provide a good opportunity for introducing the kind of constitutional discipline that monetary economists and public choice theorists have advocated for years. It is hard to tell whether politicians and central bankers will become convinced by this argument, but one thing seems clear: The approach of the Delors Report does not seem likely to bring about a common currency for Europe. Because it does not solve (and does not even address) the problem of the shift of monetary sovereignty, it will lead nowhere. Furthermore, committed as it is to the enforcement of fixed exchange rates among European currencies, that approach is likely to promote political conflict and disagreement rather than the harmonization it attempts to achieve.

If Europe does not get a common currency, then it will not reap its great advantages and monetary policy will continue to be in the hands of "independent" central bankers. Money will remain vulnerable to politicians who may be tempted to use it to purchase consent.

[25]In the light of the American experience, Friedman (1984, pp. 48–49) changed his proposal of stating the rule in terms of M1 (Friedman 1968, p. 193) and suggested instead that "the quantity of high-powered money—non-interest-bearing obligations of the U.S. government—be frozen at a fixed amount." This clearly illustrates the need for "trying out" proposed rules in order to ascertain how well they work and formulating alternative proposals when the "experiment" is not as successful as hoped. No matter what rule is chosen, however, it seems to me that it must conform to the principles spelled out by Langfeldt, Sheine, and Trapp (1989, p. 43).

[26]The need for a monetary constitution governing the common European currency would be reduced, but not eliminated, if it were introduced through a competitive process of the kind advocated, for example, by Vaubel (1979) and Minford (1989). If the competitive process would lead to a monopoly in money enjoyed by either the "European" or a national currency, then the need for some kind of monetary constitution would again present itself. The mere possibility of creating an alternative to the dominant currency would not be sufficient to constrain the inflationary tendencies of the monetary monopolist. This is why I still believe that a monetary constitution is needed (though I agree with the parallel currency approach to the introduction of a common European currency).

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Monetary stability will exist only if governments consider that condition to be in their own self-interest.

Unless European countries are prepared to give up discretion in the conduct of monetary policy (which means giving up money as an instrument of policy), the only kind of monetary unification that can be achieved is that which will spontaneously arise from the liberalization of markets. As the Delors Report indirectly recognized, "full freedom of capital movements and integrated financial markets" would discipline "incompatible national policies." Stable currencies would be preferred in international transactions, and some kind of competition among national currencies would be established. Countries with a high degree of monetary instability would see their national currency rejected by increasingly competitive markets and would, as a result, be forced to change their policy. Therefore, even if a common currency for Europe is not introduced, Europe might still get some kind of discipline in monetary affairs thanks to the "filter mechanism" inadvertently introduced by the Single Act.[27]

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[27]As Victoria Curzon Price (1989, p. 37) has pointed out:

> Creating a single European currency would represent such a loss of sovereignty that were we to get there, we would not be far off full political integration. And yet, if EMS governments stick to their stated commitments . . . they will have tied their hands as firmly as if they had actually created a European central bank. . . . Even if they retain the right to vary their exchange rates within the EMS, the need to compete for their citizens' savings will force them to behave with extreme fiscal and monetary caution.

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Approaches to Monetary Control

Gordon Pepper

The major theme in Antonio Martino's paper is that rigid monetary rules offer a greater chance for long-run price stability than do discretionary monetary regimes. Before discussing this theme, however, I wish to make two preliminary points. The first is a very general one: The historical record of inflation during the last 50 years is a dismal one. With the partial exceptions of Germany and Switzerland, monetary policy has failed in its purpose. Martino makes the very important observation that a European currency union provides an excellent opportunity for reform.

The second point has to do with Martino's observation that balance-of-payments problems would cease to exist within Europe after currency reform. This is so, but the payments problems would be replaced with the new problem of depressed areas because resistance to cuts in nominal wages hinders a reduction in real wages. Mobility of labor and capital will be essential, but it must be recognized that friction exists even in a country like the United States. The friction is likely to be magnified in the European Community by the differences in language and culture, and prosperous and depressed areas are bound to occur. The point is that in a country like the United States one result of the progressive system of federal direct taxation is that much more revenue is collected from prosperous than from depressed areas. Direct taxation is a form of massive regional aid. If the bureaucrats in Brussels are to be prevented from administering such large handouts in Europe, monetary union may have to be accompanied by a unified system of direct taxation. The point is less important for indirect taxation because a less progressive tax is involved.

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The author is Director of the Midland Montagu Centre for Research in Financial Markets at the City University Business School in London.

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The Use of Monetary Targets

Turning to the main theme of Martino's paper—that is, monetary control by rigid monetary rules—the author contends that the decision to have a target for the money supply is much more important than the choice of the aggregate on which to focus. This is correct in principle, but it may not be so in practice. Fluctuations in the behavior of one aggregate relative to another may seem insignificant from an historical perspective, but they may be of vital importance at the time when officials have to make decisions about whether or not to alter interest rates (assuming that the central bank is not operating on the quantity of bank reserves).

Experience in the 1980s in both the United States and the United Kingdom has illustrated very clearly the danger of focusing on the wrong aggregate. Particular aggregates have been heavily influenced by financial deregulation and innovation. Shifts in inflationary expectations, leading to changes in investors' preference for nominal assets compared with real assets, have been another important influence. In the United Kingdom, serious disruption would have occurred to the real economy in 1980–81 if the authorities had continued to focus on broad money rather than switch to narrow money. Disruption would have also occurred if United States authorities had continued to focus on M1 in 1982.

The argument so far has been in terms of narrow or broad money, not in terms of the monetary base. The base is unique because the central bank is the only source of ultimate liquidity. Because there are no substitutes, it is by far the safest single aggregate on which to rely. United States experience, however, has illustrated the way in which even the base can become distorted if there are mandatory reserve ratios. The growth of NOW accounts, for example, altered required reserves and affected the base. The conclusion from the behavior of the Anglo-Saxon economies during the 1980s is that the only single aggregate that is safe to target is the monetary base and, further, that there should not be mandatory reserve requirements. In other words, the only rigid target should be for the growth of central bank's own balance sheet.

Transition to a Common Currency

On a rather different note, there are many general arguments for advocating a gradual move toward a common currency rather than an abrupt change. But there are ways to do it and ways not to do it. Martino reiterates the very important point, made by Milton Friedman as early as 1962 and as recently as last December in the *Financial*

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Times, that fixed exchange rates are not an intermediate stage between floating exchange rates and a common currency, as many people suppose. Floating exchange rates and a common currency are members of the same family; fixed rates belong to a very different family.

Competing currencies—mentioned at the end of Martino's paper—is the process of evolution that has been advocated by the British Treasury in particular. There are grounds, however, for being concerned about the interaction of this with monetary targets, particularly about what will happen while one currency is competing against another. The objective is for good money to drive out bad. It is important that the suppliers of bad currencies should have an incentive to produce better money, so that the average moves continually toward the best. The danger is that a good currency can win because of the destruction of a bad currency by hyperinflation.

The particular concern is not so much about the fortunes of bad currencies as it is about what happens to good ones. It is about the appropriate code of conduct of the central bank of the good currency during the period in which it is gaining market share. How can any target for the money supply, including one for base money, be set until the gain in market share is known? The problem currently confronting the Bundesbank over German unified currency illustrates the point. If there were to be a currency conversion overnight, the central bank would know the size of its balance sheet and the money stock at the start of the next day's business. If we are given a target for the growth of national income, appropriate monetary rules could then be formulated. But if the period of change from one currency to another were to last several years, how can targets for the money supply be formulated during this period?

An alternative might be for the central bank to assess the stance of monetary policy during the transitional period by the level of interest rates in real terms. If we leave aside the argument about whether this can be done in normal circumstances, the current German experience again illustrates the exceptional difficulties that occur during a transitional period. Inflationary expectations have definitely risen in West Germany, but by how much? Because the rise cannot be measured, the current level of interest rates in real terms is difficult to assess.

Another possibility would be for the central bank to focus on the exchange rate during the period of transition, possibly to act as if it were a currency board linked to an external currency or adopt a commodity standard for a short time. The German experience again illustrates the problem. Capital formation in East Germany needs to rise massively, and it must be matched by an increase in savings.

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The obvious savings to divert are the ones that are currently flowing abroad. The surplus on West Germany's current account of its balance of payments, therefore, should fall. To achieve this, the Deutsche mark needs to rise in real terms. Pegging the exchange rate would hinder such an adjustment. Some may argue that the solution can be left to competition between central banks, that successful strategies will evolve as a result of experience. This is correct in the longer run, but it would be a high risk strategy in the shorter run, especially if no one is able to enforce appropriate codes of conduct.[1]

The conclusion is that the problems of transition would be reduced if there were an overnight currency conversion. The policy recommendation, therefore, is complete conversion of currencies on a certain day, followed by the European central bank controlling its own balance sheet.

This conclusion is contrary to that offered by Manuel H. Johnson (1990), who argued that the behavior of bond prices, the foreign exchange rate, and commodity prices might be a better guide to the stance of monetary policy than the behavior of the monetary aggregates. Because I have spent some 20 years in the gilt-edged market (the United Kingdom's government bond market), some comment might be appropriate.

Financial Market Prices as Guides to Monetary Policy

Johnson argued that financial market prices are summaries of, or aggregates of, information embodying the knowledge and expectations of large numbers of buyers and sellers. These expectations, however, do include ones about the actions of the central bank, which can be most important or even dominant. The result of his suggestion could easily be that a central bank judges that it need not act whenever the market is convinced that it will act! Second guessing is surely not a sound basis for judging the stance of monetary policy.

A more fundamental point is that expectations are only one factor influencing financial markets. They can be influenced by real or financial factors. Examples of the former are growth of dividends, earnings, and profits for stock markets, changes in inflation and real interest rates for bond markets, and the behavior of current accounts of balance of payment and purchasing power parities for foreign exchange markets. Examples of financial forces are the supply of

[1]This argument assumes that money is a natural monopoly, but see Hayek (1978).

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money, liquidity, and credit in relation to output and the supply of savings relative to the demand for finance in the economy as a whole. One of the main reasons for establishing the Midland Montagu Centre for Financial Markets at City University Business School was to investigate the importance of financial forces relative to real factors. The conclusion of the research to date is that financial forces can be extremely important. Furthermore, causality can run from financial forces, via the behavior of financial markets, to expectations rather than in the reverse direction.

Assuming that this is correct, there can be times when bond prices are rising merely because there are surplus funds to be invested. The bond market can rise for a while because of surplus growth of money, with sentiment bullish because bond prices are rising, there being an interval before people focus on the inflationary implications of the excess money. At such times, monetary policy is easy and not tight. If a central bank judges the stance of its monetary policy by the behavior of bond prices, then there are occasions on which it could badly misjudge the situation.

In conclusion, I believe that monetary policy is better judged by examining the behavior of the monetary base than by looking at the behavior of bond prices. The policy recommendation remains that the central bank should control the growth of its own balance sheet.

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Avoiding Monetary Protectionism: The Role of Policy Coordination

W. Lee Hoskins and Owen F. Humpage

Economists have long questioned the wisdom of attempting to achieve current-account objectives through a monetary manipulation of nominal exchange rates, and most have rejected this practice as little more than a near-term palliative. Nevertheless, aiming monetary policies at nominal exchange rate targets increasingly seems to be the approach of choice among national leaders. We refer to these attempts as *monetary protectionism* in order to emphasize their similarities to more traditional protectionist policies. As with calls for tariffs and quotas, calls for monetary protectionism do not stem from a clear, unequivocal demonstration of market failure, but from political institutions and incentives that encourage those dissatisfied with the market's outcome to seek market intervention. Proponents of monetary protectionism seek to supplant the automatic and nondiscriminatory responses of markets with the discretionary, politically motivated decisions of bureaucrats. Any international order built on such a foundation cannot raise world welfare.

We will explore the political economy of monetary protectionism in order to illustrate its economic shortcomings and to understand its political appeal. As a counterweight to the political pull toward monetary protectionism, we recommend that nations adopt monetary constitutions that focus monetary policy on long-term price stability and that recognize market-determined exchange rates. Moreover,

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W. Lee Hoskins is President of the Federal Reserve Bank of Cleveland and Owen F. Humpage is an Economic Advisor at the bank. The authors gratefully acknowledge the assistance of the staff and the helpful criticism and comments on early drafts from James Cassing, David Fand, Steven Husted, Arthur Rolnick, and Alan Stockman. Opinions stated in this paper are the authors' and do not necessarily reflect those of the aforementioned individuals, the Federal Reserve Bank of Cleveland, or the Board of Governors of the Federal Reserve System.

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we contend that international policy coordination set within this framework is both feasible and credible.

Monetary Protectionism

By monetary protectionism, we refer to attempts to alter *real* exchange rates through a manipulation of monetary policy, with the hope of ultimately promoting a balance-of-payments objective. In the case of a deficit country, monetary protectionists call for an expansion of money growth. A monetary expansion, other things being equal, will produce a *nominal* depreciation.[1] If individuals are unable to adjust prices immediately or if they are slow in perceiving the inflationary aspects of this policy, a real depreciation will accompany the nominal depreciation. As most economists realize, however, the inflation rate will eventually respond to the monetary expansion, off-setting the nominal depreciation and returning the real exchange rate to its initial position. Nevertheless, the tenuous, short-lived relationship between money and the real exchange rate is seductive enough to convince politicians and other "fine-tuners" that monetary policy can serve mercantilist designs.

Our focus on this issue stems from a firm belief that central banks can do no better than to guarantee long-run price stability and that any efforts to limit this guarantee are not likely to raise world welfare. This is the central lesson from the experience of policymaking during the 1970s, as well as the message of much of the professional literature based on models with forward-looking, optimizing agents. Central banks can juggle a real exchange rate and inflation target no better than they can slide back and forth along a stable Phillips curve.

A central bank that attempts to maintain price stability and a nominal exchange rate target has more policy targets than policy instruments. At times, these two objectives might be compatible. For example, in the late 1970s, limiting rapid dollar depreciation through intervention purchases of dollars could have been compatible with a contractionary monetary policy to eliminate inflation. As often as not, however, these two policy objectives will be incompatible, and the central bank must trade one objective against the other.[2]

Under such conditions, markets will view neither price stability nor exchange rate stability as a credible policy. The knowledge that

[1]Monetary policy could play an important role in correcting a current-account deficit in an inflationary economy. The correct response, of course, would be a *contractionary* policy.

[2]We assume here that the world will not adopt a commodity (gold) standard and that all central banks will not steadfastly pursue price stability.

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central banks will deviate from a policy of price stability to pursue an exchange rate objective will raise uncertainty about real returns and will distort the allocation of resources across sectors and through time. The resources devoted to protecting wealth from possible inflation could be applied to more productive uses under a policy of price stability. Moreover, attempts to maintain nominal exchange rates will not eliminate exchange rate uncertainty, since countries inevitably will resort to periodic exchange rate realignments. Hedging exchange risk will remain an important aspect of international commerce.

Although monetary protectionism seems most prevalent under the present system of floating exchange rates, one should not conclude that floating exchange rates promote its use. Monetary protectionism can result any time that a government lacks a strict monetary constitution and will accept nonmarket criteria for exchange rates. In principle, a gold standard or a fixed exchange rate regime can limit the scope of monetary protectionism, because if all countries play by the rules of the game, they link money supplies closely to the flow of international reserves. In practice, however, such regimes do not destroy the political motives for monetary protectionism, and examples abound of monetary protectionism under fixed exchange rates. By allowing some discretion in the choice of exchange rate pegs and by permitting some inertia in nominal exchange rate adjustments, fixed exchange rate regimes often produce a mechanism that weakens the allocative efficiency of exchange markets and promotes mercantilist objectives.

Economic Arguments for Monetary Protectionism

Proponents of exchange market intervention contend that the existing system of floating exchange rates lowers the potential gains from international commerce, because it has proven to be excessively volatile and it has failed to promote adjustment in the trade accounts. In their view, a global monetary system built on cooperative efforts among governments to manage exchange rates would enhance world welfare. Most economists recognize that one must base a legitimate case for government intervention on microeconomic evidence of market failure, that is, evidence of distortions and externalities, which prevent mutually beneficial trades from occurring. What, then, are the alleged market failures that underlie the interventionists' criticism of exchange markets?

Imperfect Information

Prominent themes in the interventionist literature view exchange rates as excessively volatile, maintain that they overshoot their equi-

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librium values, and contend that they are subject to speculative runs. Interventionists view such tendencies as being synonymous with "market uncertainty" or "market disorder," generally implying that they result from imperfect information.

Exchange markets, like other asset markets, are highly efficient processors of information. Forward-looking traders base spot and forward quotations on all relevant, available information. Upon the receipt of new, unanticipated information, traders revise their expectations and their exchange rate quotations. The market pays substantial rewards for investments in knowledge and provides few institutional contraints that restrict participation.

At times, government authorities can possess better information than the market, for example, when they contemplate policy surprises. In nearly all cases, however, market participants and government bureaucrats receive and respond to the same information. Bureaucrats do not enjoy privileged insight. Moreover, the market will learn to anticipate the government's reaction to market developments, so that routine government interventions will not impart new information. These observations also suggest that unpredictable changes in government policies could be a prominent source of much of the observed exchange rate volatility.

All of this does not imply that exchange rates will remain stable. Indeed, nominal *and real* exchange rates have been substantially more volatile since 1973, following the demise of Bretton Woods. At question is the extent to which one should view volatility as necessarily reflecting market imperfections, which would require government intervention. To the contrary, movements in nominal exchange rates can be part of efficient adjustment in the terms of trade. Moreover, we lack convincing evidence that exchange rate volatility is greater than that observed in other asset prices, or that exchange rate volatility has reduced international trade or worldwide investment (see Bailey and Tavlas 1988).

The interventionists' characterization of exchange rate overshooting and of speculative runs presumes that they know the equilibrium exchange rate path. Theoretically, a sustainable equilibrium exchange rate path is consistent with our concept of general equilibrium. Unfortunately, economists lack sufficient knowledge to specify accurately such an equilibrium path for a dynamic economy. Interventionists, therefore, designate equilibrium values in terms of a limited set of "fundamentals," which they hope will track the general-equilibrium path accurately enough that a policy of forcing market rates to this path will increase economic welfare.

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We are highly skeptical of such efforts. Volumes of econometric work have attempted to specify the relations among sets of these fundamentals and exchange rates, with mostly unsatisfactory results.[3] Most often, analysts specify the equilibrium exchange rate path in terms of purchasing power parity. The problems associated with deriving purchasing power parity estimates of exchange rates are well known. Accuracy assumes that an equilibrium base period is chosen and that all subsequent shocks are monetary in nature. Because nonmonetary shocks can alter the equilibrium real exchange rate over time, the original purchasing power parity estimate can drift away from the correct equilibrium exchange rate.

Another common alternative is to define exchange market equilibrium in terms of a "sustainable" current-account balance, one equal to "normal" capital flows. This approach relies on an estimation of a stable relationship between exchange rates and the current account after a statistician has removed the effects of business cycles, trade distortions, and other anomalies and temporary influences.

Beyond the obvious technical problems, a strong economic rationale for such a stable relationship between exchange rates and the current account does not exist. As Stockman (1988, p. 535) observes: "Any pattern of correlations between the current account and the exchange rate can be obtained from theory, depending on the source of the disturbance and some characteristics of the model."[4]

In truth, governments have no better information about what constitutes the equilibrium exchange rate path than do markets. Under these circumstances, attempts to force the exchange rate to a designated equilibrium are unlikely to enhance economic welfare.

Sticky Prices and Wages

Building on the idea that exchange rates should respond to trade flows, a second interventionist theme justifies active manipulation of exchange rates because prices (notably wages) are sticky (see Krugman 1989). In this view, exchange rate manipulation is seen as a means of fostering international adjustment when prices, most notably wages in the deficit country, are sticky. A real depreciation is particularly necessary because strong propensities to spend in home markets weaken income-adjustment policies. With sticky prices, a nominal depreciation alters the terms of trade, offering a necessary incentive to switch the pattern of expenditures.

[3]The seminal study on this issue is Meese and Rogoff (1983).

[4]Stockman (1990) provides examples.

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The key here is an "active manipulation" of nominal exchange rates. Floating rates can promote efficiency and aid in international adjustment, especially when prices are sticky. For example, an increase in foreign demand for U.S. goods produces a dollar appreciation, which dampens that demand. Otherwise, with home prices assumed to be sticky, we would require a nonprice mechanism to accommodate the excess demand (see Stockman 1988, 1990). Such exchange rate adjustments promote mutually beneficial trades and thereby enhance welfare.

The activist view, however, rejects floating rates because they can permit large, persistent current-account deficits. Instead, this approach assumes that current-account deficits are disequilibrium responses to policy errors, which market imperfections aggravate. It characterizes the U.S. current-account deficit as abnormal from a historical perspective and as unsustainable in view of some subjective calculations of our ability to finance this debt. According to this view, exchange markets apparently fail to consider these debt dynamics.

Recent work questions this approach by suggesting that large current-account deficits can be an equilibrium attempt to smooth consumption over time in the face of shocks that temporarily reduce current output or in the face of demographic factors that encourage current consumption relative to future consumption (see Koenig 1989). As Hill (1989) suggests, models that do not consider recent demographic patterns can produce misleading conclusions about the nature of the current-account deficit. Historic patterns, then, might not provide a basis against which to compare recent trends. Moreover, this recent work seems to question the validity of highly subjective calculations of our ability to finance that debt.

We previously addressed a more important criticism of this "activist" view: Monetary-induced changes in nominal exchange rates will alter real rates only temporarily, to the extent that prices are slow to adjust. In the long term, monetary policy cannot alter the terms of trade.

Exchange Rate Indeterminacy

Wallace (1979) offers a justification for exchange rate management based on the argument that equilibrium exchange rates for fiat currencies are indeterminate; that is, many equilibrium exchange rates are possible. Governments can break the indeterminacy either by fixing exchange rates, by introducing legal restrictions on currency holdings, or by credibly threatening future exchange market intervention.

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This theoretical model seems to suggest that all volatility is superfluous and unrelated to any economic fundamentals. As already noted, exchange rate volatility that is related to fundamentals—changing supplies and demands—can promote the adjustment process. The model also assumes that fiat currencies are perfect substitutes, but individuals typically hold portfolios of interest-earning assets, not currencies. Evidence suggests that these assets are *not* the perfect substitutes (see Hodrick 1987). The associated risk will render exchange rates determinate.

Even if one accepts the indetermacy argument, it does not justify the maintenance of fixed exchange rates through intervention in fiat currencies. Legal restrictions, such as a simple rule that governments collect all taxes and other payments in their own currencies, would suffice to solve the alleged problem.

Policy Spillovers

A recent justification for monetary protectionism stems not from market imperfections, but from alleged inefficiencies in government macroeconomic policymaking. Because a few, very large countries (the Group of Five) dominate international macroeconomic policy, the actions of any one nation have significant spillover effects on all of the others. Only through policy coordination can governments internalize these effects and achieve policy choices that are Pareto superior to autarkic policy setting. Many of the recent calls for monetary policy to focus on fixing exchange rates or on establishing target zones stem from policy coordination arguments.

The elegant gleam of the theoretical argument for policy coordination becomes tarnished when exposed to empirical tests. Generally, studies do not offer support for international mechanisms, such as fixed exchange rates or target zones, that require a continual coordination of macroeconomic policies.[5] Empirical studies of coordination find only small gains, suggesting that policy spillovers are not critical to the economic well-being of the largest industrial countries today.

A major argument against policy coordination is that we lack sufficient knowledge about the nature of international economic interactions to agree on a specific model and on corrective policies. Nearly all econometric models differ in their policy multipliers. When these multipliers refer to domestic policy objectives, the differences are mainly in degree; but when the multipliers refer to international policy effects, the differences are often in direction. This uncertainty

[5]Humpage (1990) surveys this literature.

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about the true economic model raises questions about the ability of policy coordination to enhance welfare.

In large part, the lack of success in addressing current-account imbalances among West Germany, Japan, and the United States in recent years has arisen because each country views the cause of the problem differently and, therefore, each has a separate prescription for redressing it. West Germany, for example, regards the current-account imbalances largely as a problem steming from U.S. fiscal policies.

Another questionable aspect of international policy coordination is that it can challenge the more traditional ordering of policy preferences, which is an important aspect of national sovereignty. West Germany, for example, traditionally favored relatively low inflation and a current-account surplus, and is unlikely to accept a high rate of inflation in order to eliminate its current-account surplus. Countries will pursue international policy coordination only when it is mutually advantageous; they will abandon policy coordination if it conflicts with highly valued, traditional domestic goals.

In view of the substantial weight countries attach to domestic policy targets and given the apparent model uncertainty, policy coordination will lack the discipline and the spontaneity that it requires for credibility, much less for success. An approach lacking credibility creates uncertainty about the reasons for government actions and could increase the volatility of asset prices, especially exchange rates.

The Political Economy of Monetary Protectionism

We have attempted to illustrate that the economic arguments offered in favor of monetary protectionism are weak, that such monetary manipulations do not have a permanent effect on the terms of trade, and that they risk inflation. To understand their proliferation, it is necessary to investigate the political institutions that give rise to monetary protectionism.

In contrast to the interventionist literature, which presupposes an all-wise government acting in the public's best interest, a rich and growing literature on political economy characterizes elected officials as seeking to enhance their own power, prestige, and wealth by maximizing their ability to gain votes. Politicians and bureaucrats attempt to extend the scope of their influence by responding to the demands of the most politically active constituencies. This literature has offered important insights into traditional protectionism (see Quibria 1989). What follows are some thoughts on similar elements relating to monetary protectionism.

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Buying Time and Deferring Criticism

Elected officials might find exchange rate manipulation attractive because it defers criticism while buying time for more fundamental actions. By 1985, dollar exchange rates were at their zenith; the U.S. current account was deteriorating rapidly, and evidence suggested that the United States was becoming a debtor country for the first time since World War I. U.S. manufacturers, facing increasingly stiff competition worldwide, besieged Congress for trade legislation. Most important, analysts increasingly linked the deterioration in the external accounts with fiscal policies of the administration and Congress. The opportunity cost of government inaction, measured in terms of votes lost, seemed to rise sharply in the early 1980s.

The administration realized that the U.S. current-account deficit reflected imbalances between savings and investment in the United States and in West Germany and Japan. Governments, however, cannot easily redress such structural relationships through fiscal policies because of strong vested interests in maintaining various tax and expenditure patterns. The unwillingness of the United States to take strong measures to cut the federal budget deficit typifies the problem. A corresponding reluctance to expand fiscal policy for balance-of-payments purposes existed in West Germany and Japan in the early 1980s.

Lacking an ability to address these structural problems directly and quickly, policymakers might resort to exchange market intervention. When coordinated through the Group of Seven, such intervention offers a highly visible signal that governments are responding to the desires of their constituencies. If accompanied by credible pronouncements of changes in future monetary and fiscal policies, intervention might serve to diffuse criticism of administration policies, to blunt protectionist demands, and to buy time for more fundamental policy adjustments.

Targeting Benefits and Diffusing Costs

In addition to simply buying time, exchange rate policies can offer temporary benefits to specific constituencies. When goods prices are slow to adjust, a nominal currency depreciation is equivalent to a temporary, across-the-board tax on imports and a subsidy to exports. With the terms of trade temporarily altered, certain groups in the traded-goods sectors can realize benefits from monetary protectionism similar to those afforded by commercial policies. Ultimately, any benefits from monetary protectionism dissipate with a higher inflation rate and with a reduced credibility of monetary policy. The inflation costs of monetary protectionism, however, are dispersed

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across as wider spectrum of individuals and over a longer time horizon than the benefits. A constituency that receives net benefits from monetary protectionism (export- and import-competing firms) can exist. Such a constituency is likely to be politically more cohesive than any constituency for price stability. Consequently, a policy that seems myopic from an economic perspective can be politically farsighted.

Another seemingly attractive aspect of monetary protectionism is that Congress and the administration can justify it in terms of broader macroeconomic considerations, such as exchange rate "misalignment" or current-account "imbalance," rather than industry-specific considerations, such as automobile and steel employment. Consequently, the rent-seeking aspects of monetary protectionism are less obvious than those of commercial policies.

In the early 1980s, most import-competing firms sought direct restraints, because Congress can tailor commercial policies to fit specific products or countries. Direct restraints, however, seemed increasingly difficult for legislators to enact. As the frequently heard plea, "I'm for free trade as long as it's fair" suggests, even those who seek restraints recognize that, as a general policy, protectionism is costly and inefficient. Perhaps more important, however, Congress faces a growing antiprotectionist lobby (see Destler and Odell 1987). Multinational firms and domestic exporters fear that U.S. trade sanctions could trigger foreign retaliation. Domestic importers of consumer goods and firms that use traded goods as component parts face higher costs because of import restraints. In addition, Congress is constrained in the use of traditional import restraints because such policies often violate existing treaties or tend to compromise other foreign-policy initiatives.

Wary of the pitfalls of traditional commercial policies, some members of Congress sought to satisfy constituencies and avoid foreign retaliation through a manipulation of nominal exchange rates. By the end of 1985, many bills, introduced and supported on both sides of the aisle, contained specific endorsements of exchange rate policy. One item, submitted by Senators Bradley, Moynihan, and Baucus, called for the creation of a "Strategic Capital Reserve," akin to the Exchange Stabilization Fund, which the U.S. Treasury would use to purchase foreign currencies when the current-account deficit exceeded a target value and when the dollar deviated from a level compatible with a current-account balance. The bill also instructed the Federal Reserve System not to sterilize the monetary effects of intervention from the Strategic Capital Reserve.[6] The demands for

[6]Destler and Henning (1989, pp. 108–12) discuss this legislation.

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protectionism seemed to lessen after the United States and the other large industrialized countries began to intervene and after the dollar began to depreciate.

Government Collusion

Countries interested in establishing exchange rate targets have a strong incentive to collude in their efforts with foreign governments (see Vaubel 1986). In the case where countries attempt to alter nominal exchange rates, such collusion provides tacit foreign approval of these policies and limits the chances that a foreign government will take steps to neutralize the exchange policies of another. Sometimes such collusion involves having cartel members delay policy negotiations or exchange rate adjustments when individual cartel members face critical elections. Bretton Woods and the European Monetary System (EMS) are examples of fairly successful collusion. The competitive currency devaluations of the 1930s show what can happen when governments attempt to fix a price, but the cartel breaks down.

Coordinated efforts to fix exchange rates can allow individual countries to influence the policies of others and to defer some of the adjustment burdens of maintaining the peg. Such mechanisms are found in the EMS and figure in some proposals for target zones and for fixed exchange rates. Many support the European central bank proposal for just this reason. The alternative is to sacrifice monetary sovereignty to maintain a fixed exchange rate and to follow the monetary policy of a dominant country.

Rogoff (1985) offers another important reason why governments might collude to manipulate nominal exchange rates. In his model, governments have a higher tolerance for inflation than the public, and they attempt to exploit any short-term stickiness in prices for a higher rate of output and employment. Under floating exchange rates, a rapid depreciation in the nominal exchange rate in response to such inflationary policy signals the market's displeasure and contrains governments. Through collusion to fix the exchange rate, however, governments can blunt the exchange rate reaction to their policies and reduce the political costs of pursuing inflationary policies. Generalizing from Rogoff's argument, coordination to limit exchange rate fluctuations is politically attractive, because it eliminates an important, immediate barometer of the market's opinion of government policies.

Extending Influence

As in the United States, exchange rate policy often falls under the purview of treasuries and finance ministries, but its success requires

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the participation of central banks. As is well known, sterlized exchange rate intervention has no lasting effects on exchange rates (see Humpage 1986).

For their part, central banks often are willing participants, viewing exchange rate management as a legitimate aim of monetary policy. Exchange rate movements can impart useful information for policymaking, and exchange rate targets can sometimes be consistent with a monetary policy of price stability.

As often as not, however, exchange rate policies conflict with price stability. For example, U.S. intervention sales of dollars in 1989 seemed inconsistent with a goal of price stability. When these objectives conflict, the Federal Reserve System faces a dilemma between its mandate of policy independence and its accountability to the broad national policy goals set by Congress and the administration. The Fed does not wish to appear unresponsive in the eyes of the public to the objectives of Congress and the administration. Participation also enables a central bank to influence policy formulations that it is powerless to prevent. Nevertheless, as Herbert Stein (1989) noted, "Despite all the formal provisions for its independence, the Fed seems constantly to feel that if it uses its independence too freely it will lose it."

In countries with independent central banks, intervention policies might enable fiscal agents to extend their influence beyond the exchange market to domestic monetary policy. Elected officials often seek easier monetary policy than central banks, hoping to lower interest rates and to stimulate real growth and employment. In choosing a nominal exchange rate target, engaging in intervention, and encouraging the central bank not to sterilize the intervention, fiscal agents have a mechanism for such an influence. This channel of influence would not usually be open. At times, however, such as when the central bank's policy committee is not in unanimous agreement, such an influence, marginal though it may be, could prove decisive in charting future monetary policy.

A Global Monetary Order: 1992 and Beyond

We have attempted to instill a healthy skepticism for exchange market manipulation, arguing that monetary protectionism is not grounded in widely supported economic evidence of market failure and, therefore, that it is unlikely to enhance economic welfare. Instead, monetary protectionism stems, as a near-term palliative, from the political interactions between policymakers and constituencies with vested interests in particular market outcomes.

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Any international monetary order willing to accept nonmarket criteria for exchange rates and failing to bind governments with monetary constitutions is ripe for monetary protectionism. To counter the political incentives toward monetary protectionism, we urge nations to adopt monetary constitutions along lines similar to the Neal Resolution in the United States, which focuses monetary policy on achieving long-term price stability. This would do more to eliminate exchange market uncertainty and to foster the efficient worldwide use of real resources than any program to manipulate nominal exchange rates.

Our comments are not meant as a blanket condemnation of international policy cooperation. We strongly support cooperation that emphasizes monetary constitutions, focusing on price stability, and that recognizes market-determined exchange rates. Only cooperation based on these conditions seems both feasible and credible, because it recognizes the pre-eminence of national policy objectives and monetary sovereignty.

Contrary to what some might infer, this approach does not preclude European monetary unification, but it suggests a different approach than currently seems to be favored (see Hoskins 1989). European governments are not likely to relinquish national monetary sovereignty upon adoption of a single market in 1992. Indeed, this concern is at the heart of the British reluctance to join the EMS. Consequently, greater exchange rate flexibility than the EMS currently provides seems necessary to ensure that exchange rates do not interfere with the efficient flow of goods, labor, and capital following the removal of restrictions.

The free flow of resources will foster a convergence of policy preferences within Europe as governments compete for these resources by providing stable economic and political environments. Governments that fail to provide such an environment will lose resources, as markets "vote" on policies. The resulting convergence of monetary and fiscal policies will lead to greater exchange rate stability. In time, when the governmental competition for resources attains a convergence of macroeconomic policy, issues of national policy sovereignty, in effect, will be muted. Only then will a monetary union with a common currency be feasible, and only then will monetary union augment the efficiency gains of a single market.

To fix exchange rates prior to a convergence of policy preferences within the Economic Community seems to ensure that interest rates and prices will bear more of the adjustment burden as resources move across currencies. Moreover, if we judge from the experience of Bretton Woods, fixed exchange rates would seem to guarantee

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speculators of periodic and obvious exchange rate adjustment and to encourage governments to impede the flow of goods and capital through the reintroduction of restraints. The dynamics of achieving monetary union are as important as the goal.

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The Folly of Policy Coordination

William A. Niskanen

My own views on protectionism and policy coordination are so close to those of Lee Hoskins and Owen Humpage that most of my comments involve an elaboration of their paper.

Monetary and Trade Protectionism

The *temporary* real effects of monetary protectionism are similar to those from the traditional forms of trade protectionism: Both policies increase output and real income in the import-competing industries only by making most of us *poorer.* Monetary protectionism, to the extent that it is not fully anticipated in domestic prices and wages, temporarily reduces the real exchange rate, reducing the general foreign price of domestic goods and increasing the domestic price of foreign goods. The effects of traditional trade protectionism are similar but less general to the extent that tariffs and quotas are not uniform across goods.

The long-term effects of these two types of policies, however, are quite different. Monetary protectionism has no significant effect on the long-term real exchange rate, except to the extent that the tax code is not fully indexed to the price level. In the long term, monetary stimulus provides no significant protection of import-competing industries, and its primary distributional effects are a one-time redistribution of wealth from lenders to borrowers of fixed-rate debt instruments. Trade protectionism, in contrast, provides sustained protection of import-competing industries, although at a generally larger loss of output in other industries.

Monetary stimulus, in summary, provides only a temporary palliative to political demands for protectionism but has few long-term

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The author is Chairman of the Cato Institute and a former member of the President's Council of Economic Advisers.

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real effects, except to the extent that the variance of money demand reduces real output. Trade protection, in contrast, leads to a sustained misallocation of resources and a lower total output. For this reason, monetary stimulus may reduce the demands for trade protectionism in the near term but not in the longer term. The relative political demand for these two types of policies, therefore, will depend in part on whether the affected industries are perceived to face only a temporary or a longer-term competitiveness problem. In both cases, one should recognize that either policy achieves its intended distributional effects only by reducing total output and average real income.

Fiscal Policy and Real Exchange Rates

Most of the variation in the real exchange rate does not appear to be related to changes in monetary policy but rather to changes in *fiscal* policy—a point that Hoskins and Humpage do not mention. During the 1980s, for example, the trade-weighted real exchange rate of the U.S. dollar was strongly related to the real long-term bond rate, both of which increased sharply from 1980 through 1985 and declined sharply through 1988. This pattern does not appear to be related to changes in either the monetary aggregates or in nominal total demand; the highest rates of nominal GNP growth, for example, were in 1981 and 1984, years in which both the real exchange rate and the long-term real interest rate increased sharply.

There is a broader consensus that the pattern of real interest rates and, in turn, the real exchange rate was primarily due to changes in fiscal policy. There is a continued disagreement, however, about whether this was due more to changes in the federal deficit or to changes in the tax treatment of income from capital. I am personally skeptical of the deficit explanation. For the most part, a large number of studies fail to find any significant effect of current government borrowing on either real interest rates or the real exchange rate. The several articles by Evans (1985, 1986, 1987) may be the best of these studies. During the 1980s, for example, the federal deficit (as a percentage of GNP) peaked in 1983 and the privately held federal debt continued to increase through 1989. I may have been the first to suggest, in December 1981, that the increasing integration of the world capital markets may be the primary reason why government borrowing, even in a very large economy, appears to have so little effect on interest rates. There is still a plausible theoretical reason to expect government borrowing to have some effect on interest rates,

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but the empirically estimated effects appear to be both very small and highly variable.

In January 1985, William Poole (my colleague on the Council of Economic Advisers) and I offered a different explanation: that the major changes in real interest rates and the real exchange rate were primarily due to changes in the taxation of capital income. In the 1985 *Economic Report of the President*, we wrote (p. 35):

> It appears that the high level of real interest rates is in large part attributable to the major change in [the taxation of business capital] enacted in 1981, which raised the real after-tax internal rate of return on new business investment. . . . It is difficult to sort out the relative magnitudes of the effects on real interest rates of monetary restriction, large budget deficits, and high real rates of return on new business investment. . . . [However], if the monetary or budget deficit effects had dominated, then high interest rates for these reasons would have overwhelmed the new incentives to invest, making business investment relatively weak instead [as was the case in 1983 and 1984] of relatively strong.

Consistent with this perspective, I informed President Reagan in my last memorandum to him in March 1985 that the substantial increase in the effective tax rates on new investment proposed in the Treasury tax reform plan (released in November 1984) would probably lead to a decline in real interest rates, the real exchange rate, and (with some lag) the trade deficit. And this is what happened. Real interest rates and the real exchange rate peaked in the winter of 1985, and the real trade deficit peaked in 1986.

Although the Tax Reform Act was not finally approved until September 1986, the business tax provisions were retroactive to the beginning of that year, and the major features of the act were known much earlier. For example, the major provisions of the Treasury proposal were incorporated in the president's tax reform proposal of May 1985, and the House Ways and Means Committee approved even higher capital income taxation in September 1985—just prior to the Plaza Agreement on exchange rates, which was broadly (but, I believe, incorrectly) believed to trigger the subsequent sharp drop in exchange rates.

In summary, I believe that the sustained decline in the forward-looking auction markets for interest rates and the exchange rate, beginning in the winter of 1985, was primarily due to the increasing expectations of approval of the Tax Reform Act of 1986 and the subsequent effects of that act on the realized post-tax rates of return on new business investment. (Alas, at that time, I had no money to invest.)

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There is still no consensus on the interpretation of these developments, but this perspective on the effects of capital income taxation on real interest rates, the real exchange rate, and the trade balance has now been developed by Sinn (1985), Summers (1986), Frenkel and Razin (1986), and Bovenberg (1989). The more important question here is whether the monetary authorities should try to offset these effects of fiscal policy on real interest rates and the real exchange rate. My answer, and surely that of Hoskins and Humpage, is "under *no* circumstances." In the early 1980s, this would have required a progressively large increase in monetary stimulus, which would have helped stabilize the real exchange rate only if it had been continuously unanticipated and, in any case, would have been sharply inflationary. The opposite policy, of course, would have been required in the late 1980s. In either case, the costs of such a monetary response would have been far higher than the temporary benefits of stabilizing the real exchange rate, especially given the rather small costs of hedging against changes in the exchange rate.

The counterpart question, of course, is whether fiscal policy should be used to offset the effects on real interest rates or the real exchange rate of monetary policy or of economic conditions or policies in other countries. Again, my answer is a strong negative. Most of the effects of monetary policy on real conditions are only temporary, compared to both the time to approve changes in fiscal policy and the lags in their effects. It is especially foolish to increase tax rates in one country to offset the exchange rate effects of foolish policies, such as nationalization or increased taxes on capital income, in another country. In any case, fiscal policy should not be used as a discretionary instrument, because there are high efficiency costs of the variance in tax rates.

In summary, the long search for the optimal mix of monetary and fiscal policy has been futile. These two types of policies have very different effects and should be addressed to different goals. Monetary policy should be implemented to stabilize the general price level, not specific prices, including exchange rates. Fiscal policy should be used for allocational and distributional objectives, not as a discretionary instrument of demand management.

An Adaptive Demand Rule

Stability of the general price level is the appropriate goal of monetary policy—a position endorsed by both Hoskins and, apparently, Alan Greenspan—but I suggest that it is not appropriate for a central bank to follow a price-level rule. The reason for my position is that

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the general price level is dependent on both demand and supply conditions. A price rule would require the central bank to conduct a contractionary policy in response to an adverse supply shock and an expansionary policy in response to a favorable supply shock. A price rule, in summary, would stabilize the price level only by increasing the variance of the output effects of unexpected changes in supply conditions.

A central bank, I suggest, is better advised to follow a demand rule. The bank, preferably with the endorsement of the political authorities, would set a target path of total nominal demand for a several year period, with the target demand growth in the final year set equal to the expected growth of output. Total demand is probably best measured by final sales to domestic purchasers, the aggregate equal to GNP minus the change in inventories minus the trade balance. In contrast to the effects of a price rule, a central bank following a demand rule would not change monetary policy in response to an unexpected change of supply conditions in either direction. A demand rule, thus, would minimize the variance of output at the expense of a somewhat higher short-term variance of price level. A demand rule, however, is consistent with long-term stability of the price level (since unexpected changes in supply conditions have a zero mean) and for this reason would also stabilize long-term interest rates.

It is also important that the implementation of a demand rule be adaptive to changes in the relation between total demand and the monetary base. The developing empirical evidence, in technical terms, indicates that velocity is difference-stable, not trend-stable. This was first demonstrated by Gould and Nelson (1974) based on annual data and was confirmed by Haraf (1986) based on quarterly data. The implication of these findings is that the growth of the monetary base should be changed in the opposite direction to the revealed changes in demand velocity. McCallum (1988) has suggested one such adaptive demand rule, but more testing would be valuable to identify the rule that minimizes the variance in total demand. The developing evidence, however, is sufficient to conclude that the monetary rule favored by the "high-church" monetarists—a steady (or zero) growth of some monetary aggregate—is not sufficient to stabilize total demand. Another important feature of an adaptive demand rule is that it is forecast-invariant. Economist have a lot to be humble about, but we should have learned a long time ago that we have no special ability to look around the corner of time. A third advantage of an adaptive demand rule is that it is easier to gain a political consensus for a policy rule based only on current and

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prior revealed information than for one based on the specific forecast by one of the institutions in the policy process.

The first task is to bring inflation to zero over a reasonable period. With some goodwill and mutual trust, this period should be sufficient to resolve any remaining differences between those who favor a price rule and those who favor a demand rule. I am pleased to report that my conversations with members of the Federal Open Market Committee suggest that they understand the advantages of an adaptive demand rule, although the public statements of several of the members suggest that they favor a price rule. This is a technical difference among friends, however, and should be easy to resolve.

Follies of Policy Coordination

My final point is that Hoskins and Humpage have *understated* the follies of policy coordination across governments. On a simulated basis, the probability that macroeconomic policy coordination is welfare enhancing is only slightly more than 50 percent, as long as the several governments use somewhat different models of how the world works (see Frankel and Rockett 1988). In practice, it is difficult to coordinate economic policy among the Treasury, Congress, and the Federal Reserve. And the two major recent attempts at macroeconomic policy coordination, the first initiated by Treasury Secretary Michael Blumenthal in the late 1970s and the second initiated by Treasury Secretary James Baker in the 1980s, were both U.S. efforts to induce Germany and Japan to take measures that would offset the effects of a failure of the U.S. government to make the necessary hard choices on domestic policy. In the first case, Germany cooperated with Blumenthal's "locomotive strategy" to their later regret, but Japan did not. In the second case, Japan cooperated by measures to increase domestic demand, but Germany, because of its role as the anchor currency in the EMS, did not. In both cases, these attempts to policy coordination had the effects of delaying the necessary hard choices by the U.S. government and of reducing the trust among governments that is necessary for a coordinated response to more important issues.

My criticism of macroeconomic policy coordination is not an endorsement of autarky. For those government officials who prefer to spend their time at international meetings, there are plenty of important issues to discuss and resolve. For the moment, it is especially important to coordinate the response of Western governments to the rapidly changing developments in the Soviet Union and Eastern Europe. It will continue to be important to promote mutual

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agreement on the rules of international trade and investment and on the enforcement of property rights. It will continue to be important to promote rules on the international use of "common pool" resources, such as the electronic frequency spectrum, orbital slots, migratory marine life, and the few genuinely international pollution sinks.

In most cases, our finance ministers and central bankers are not the appropriate officials to send to meetings on these issues. In those cases, they should stay home and put their own house in order.

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Autonomy and Coordination of Monetary Policy in a Global Economic Order

Yoshio Suzuki

Monetary Coordination and Dollar Misalignment

During the last one or two years, monetary coordination has not been discussed at G5 or G7 meetings as often or with as much urgency as before. The monetary coordination that was begun after the Plaza Agreement of September 1985 had various objectives, but in retrospect its major purpose has been to adjust the medium-term misalignment of the dollar against other major currencies. The dollar declined sharply until early 1988, when the fall came to a stop; and since 1989, the dollar has even strengthened. The first act of the drama, "policy coordination after Plaza," seems to have ended. Frankly, Japan is uncomfortable with the decline in the value of the yen, from the 120-yen level to the 140-yen level that has taken place since 1989. Although we worry that the current account deficits of the United States may expand again, the strong international policy coordination that was carried out from the Plaza Agreement through 1988 was not continued in 1989 to prevent the dollar from rising. The United States did not reduce its official discount rate, and Japan maintained an official discount rate of 2.5 percent, a historical low. There was no coordination to prevent the dollar from rising by reducing the interest rate differential between the United States and Japan.

I am pleased to see that the monetary policy coordination that was designed to manipulate the value of the dollar has come to an end.

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The author is Vice Chairman of the Board of Councilors of Normura Research Institute, Ltd., and former Executive Director of the Bank of Japan. This paper was delivered as a luncheon address at the Cato Institute's Ninth Annual Monetary Conference in London, February 23, 1990.

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A review of the process of monetary policy coordination since the Plaza meeting shows that it was only before the February 1987 Louvre Agreement that all of us faced no major conflict between the aim of domestic monetary policy—that is, price stability—and the aim of international coordination—that is, the manipulation of the dollar's foreign exchange value. After the Louvre Agreement, however, international coordination imposed a major constraint on the autonomy of monetary policy. If it had not been for international coordination, the stability of the domestic macroeconomies of major countries since 1988 would have been better.

Let me elaborate. The first initiative taken after the Plaza Agreement was to bring down U.S. interest rates, which had been the main cause of the high U.S. dollar. The result was a narrowing differential between long-term interest rates in the United States and those in Japan and Europe. This provided room for interest rate cuts in Japan and Europe. In order to stimulate growth in domestic demand, Japan, the United States, and major European countries reduced their interest rates in a concerted manner while maintaining the narrowed interest rate differential. This was the start of a "coordinative interest rate reduction," a rare case of a happy harmony between autonomy and coordination. This concerted action succeeded in achieving global economic recovery; the narrower interest rate differential resulted in a fall of the U.S. dollar, and international imbalances started to decrease.

By February 1987, when the Louvre Accord was reached, the monetary authorities of major countries reached the common view that a further weakening of the dollar would be counterproductive for the world economy. Coordination entered the second phase. The aim of international policy coordination became the prevention of any further decline in the U.S. dollar. Interest rates were lowered in Japan and Europe and raised in the United States. As a consequence, the interest rate differential widened again.

During 1987, economic recovery became clearly visible in Japan and Europe. Monetary policy in Japan and West Germany was shifted to a stance that allowed an increase in market interest rates. It was expected that the official discount rate would be raised before the end of the year, but the stock market crash in New York changed the trend.

Faced with the crash of stock prices in October 1987, U.S. authorities, in order to prevent panic in the financial markets, eased monetary conditions instead of keeping interest rates high as they had planned. This policy change resulted in a further decline of the dollar, and Japan and major European countries had to lower their

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market interest rates again to support the dollar. This launched a third phase of policy coordination, the "period of renewed coordinative interest rate reduction."

From the beginning of 1988, the negative side of such coordinative activities became increasingly obvious. Inflationary expectations mounted worldwide following "renewed coordinative interest rate reductions" that, in retrospect, might have been excessive. From the summer of 1988, the United States, West Germany, and other European countries began to raise their official discount rates to achieve domestic price stability. It was around that time that the fear of a further decline in the dollar subsided, and the monetary policy coordination that started after the Plaza Agreement came to an end. Thus, the autonomy of major countries' monetary policy was restored. But it was a bit too late because inflation rates in most major countries had already started to rise.

Lessons from Past Coordination

What lessons have we learned from our experience between September 1985 and 1988? The benefits from the policy coordination have been a solution to misalignment among exchange rates of major currencies and the resultant contraction of the current account imbalances in Japan and the United States, from over 4 percent to nearly 2 percent of GNP. Taking into account lagged effects of direct investment, the ratio of the international imbalance to GNP should shrink more even under the current exchange rate. Moreover, these effects were achieved without sacrificing free trade and capital movement.

What then are the costs of policy coordination? They include an increase in inflation rates of major countries and an increase in interest rates worldwide. In Japan, the strong yen somewhat curbed the increase in goods and service prices. But because Japan maintained low interest rates between February 1987 and May 1989, the growth rate of the broad money stock reached double digits. This resulted in a surge in asset prices, including land and stock prices. The resulting wealth effects on aggregate demand have clearly generated potential inflationary pressure.

In addition to these costs, there has been an unexpected by-product in the global economic structure. Because the yen's value against the U.S. dollar almost doubled and because the low interest rates required for policy coordination caused asset prices in Japan to surge, the total assets of Japan's private sector at the end of 1988 reached $43 trillion, 16 times as much as GNP; net worth reached $22 trillion, 8 times as much. These figures sharply exceeded the corresponding

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figures of $39 trillion and $14 trillion for the United States. Although Japan's gross external assets accounted for only 3.1 percent of total assets and its net external assets accounted for only 1.3 percent of total net worth, it has become the world's largest net creditor country. This implies that any domestic policy or reform that induces portfolio adjustments in Japan may have large spillover effects on overseas interest and exchange rates. As a matter of fact, raises in the official discount rate by the Bank of Japan in October and December of 1989 triggered falls of bond and equity prices in the New York market.

Perhaps international cooperation might have to be extended from the dimension of "flow," such as adjusting trade imbalances and controlling aggregate demand, to the dimension of "stock," which includes managing portfolio adjustment. At least we have entered an era when we must be vigilant that international friction arising from flow, such as trade friction, does not trigger an unexpected reaction in the dimension of stock, such as a rush of global portfolio adjustment, which could result in worldwide disturbance to interest rates and exchange rates. This may imply that international coordination has become even more necessary to achieve international financial stability in the global economic order. In this context, President Bush and his Council of Economic Advisers were quite right in rejecting ideas of "managed trade" and control of direct investments to the United States from abroad in the February 1990 *Economic Report* and in the CEA's *Annual Report* to Congress. The idea of controlling direct investment from abroad together with managed trade is very dangerous indeed, particularly for a large deficit country under a floating exchange rate regime with global capital movement among economies holding enormous amounts of financial assets.

Autonomy and Coordination

International monetary arrangements are always expected to function in a way that will ensure (1) free international trade of goods and capital, (2) stability of the domestic economies of individual nations, and (3) stability of the global economic order. Satisfying all of these conditions at the same time is extremely difficult. Although there is general consensus over the desirability of achieving free trade of goods and capital, the second and third propositions often prove mutually exclusive. In this regard, the period since the Plaza Agreement has not been an exception.

As of February 1990, the governments of the United States, Japan, and West Germany are putting top priority on the autonomy of monetary policy to achieve domestic macroeconomic stability. Meanwhile,

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Canada and members of the European Monetary System (EMS) other than West Germany are concerned more with preserving the stability of their currency's exchange rates vis-à-vis the Deutsche mark and, in the case of Canada, with the U.S. dollar. Both the second and third conditions, then, are satisfied to a certain degree within the region covered by the EMS and North America, but friction in tripartite relations among these two regions and Japan could pose a threat to global stability.

A solution could be found to all three issues if the world were to adopt a single currency, but at the moment that is not possible. The United States, Japan, and West Germany are left with no alternative but to try to stabilize the global economic order under a regime of floating exchange rates with free trade and capital movements.

Judging from events in Eastern Europe and the Soviet Union since the end of 1989, we see that the economic competition between capitalism and communism, or between "decentralized market economies" and "centrally planned economies," is nearly over. But I do not believe that the basic confrontation in the global economic order has come to an end. From now on, confrontation will center on the front between the "liberal" market economies of the front-runner countries and the "developmental" market economies of second-tier, or catching-up, countries. The former group includes Britain, the country that founded that group in the 19th century; North America and Western Europe, which have joined since the end of World War II; and Japan, which joined in the 1970s. The typical success stories of the developmental market economy include Japan from the end of World War II until the 1970s and the Newly Industrialized Economies in Asia today. Some ASEAN countries and recently East European countries, the Soviet Union, and China are about to join the second-tier group. The developmental market economy uses a development strategy of industrialization based on the framework of a market economy but with strong government guidance and intervention to achieve high-speed capital accumulation and high growth to catch up with the front-runner countries. It is characterized by the supremacy of the economy and nonideological philosophy.

If the second-tier nations successfully develop their economies and expand into the world market, the front-runner countries must shift their industrial structure to a higher technological level. Otherwise, economic friction between the two will mount. If advanced countries impatiently criticize the government intervention of developmentalism and demand liberalization with cries of the universal justice of liberalism, then the developmental nations will resort to nationalism. There is a danger that, being disappointed by this con-

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frontation, the front-runner countries will resort to new protectionism. If this happens, we will see the world divided into several blocs of market economies surrounded by fortresses, instead of drawing close to one global market economy characterized by free trade and capital movement.

Conclusion

The most desirable form the global economic order could take in the 1990s would be to have three liberal market economies: integrated Western Europe; North America, consisting of the United States and Canada; and Northeast Asia, consisting of Japan, South Korea, Hong Kong, and Taiwan. Liberalization of the economies in Northeast Asia is as yet insufficient and should be promoted more vigorously. Three groups of liberal market economies will have increasingly deep relations with adjoining developmental market economies through trade and capital investment: Western Europe with Eastern Europe, North America with Latin America, and Northeast Asia with the rest of Eastern Asia. These three economic spheres, within which intra-regional trade is growing sharply, must remain open to each other. West Germany, the United States, and Japan should maintain the stability of their own domestic macroeconomies through autonomous monetary policies and play the role of an anchor in each sphere. The financial markets in London, New York, and Tokyo should function as international financial centers. The U.S. dollar, the yen, and the Deutsche mark—or the unified European currency if it materializes—should compete with each other under a floating exchange rate regime with free trade and capital movement. Individual countries should determine which currency they will use for international reserves, contracts, and settlements. Individual countries should also be free to choose whether their own currencies will float freely under autonomous monetary policy or be pegged to one of the three polar currencies.

Policy coordination should not impede the autonomy in the monetary policies of the tri-polar economies. There are two major objectives for policy coordination in the 1990s. One is to avoid the rise of protectionism among the front-runner countries and nationalism among the second-tier countries and to promote both gradual structural changes in the liberal market economies and the industrialization of the developmental market economies with a common aim of achieving one global market economy with free trade and capital movement. The three economic spheres should freely compete

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among themselves with respect to trade, capital, and currency as open markets where intra-regional trade is developing rapidly.

The second objective of coordination is to ensure that the financial stability of the global economic order is maintained. As transfer costs of information decrease and as global links of electronic payment systems develop, the global systemic risk will also increase, particularly when the accumulation of assets as compared to income levels advances further. Deliberate international coordination is becoming even more important for preventing conditions that might trigger a rush of global portfolio adjustment and induce a market crash.

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The Pattern of Economic Policies in LDCs: A Public Choice Explanation

Daniel Landau

There is method in their madness.

—Shakespeare

Introduction

One of the major characteristics of government economic policy in the less developed countries (LDCs) has been an unwillingness to accept the outcomes of unrestricted markets. The governments of LDCs have imposed a wide variety of price, quantity, and entry controls, along with subsidies and public ownership of large segments of industry, transport, and banking.

The imposition of wide-ranging restrictions on market outcomes in so many LDCs has been explained in three major ways (with many variations): (1) The economies of the LDCs are such that the restrictions are economically efficient or accelerate economic growth; (2) these policies, while inefficient, improve income distribution (that is, increase the relative income of the poor); (3) the governments or citizens of the LDCs ideologically reject unrestricted markets. This paper will suggest a public choice hypothesis: The restrictions on market outcomes are in the self-interest of the decisionmakers in LDC governments.

The public choice approach unifies the analysis of the economy and the political system by assuming that political action and politicians exhibit the same rational maximizing behavior as the "economic man" in the marketplace. Martin Staniland (1985) in his survey of the public choice and other political economic approaches calls

Cato Journal, Vol. 10, No. 2 (Fall 1990). Copyright © Cato Institute. All rights reserved.

The author is Professor of Economics at the University of Connecticut–Waterbury. He thanks Gustav Papanek and the participants in a session of the Northeast Universities Development Conference at Williams College for their comments on an earlier version of the paper. The usual caveat applies.

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the public choice approach "The New Political Economy." Perhaps the very best work in the new political economy is in Robert H. Bates's book on agricultural policies in sub-Saharan Africa, *Markets and States in Tropical Africa* (Bates 1981, which is also summarized in Bates 1988). Deepak Lal (1987) uses a new political economy approach to analyze economic liberalization in LDCs that have reached debt and similar crises. Lal (1987, p. 276) contrasts the public choice approach with the traditional analysis of economic policy in the LDCs:

> Most of the existing literature . . . is based on the economist's traditional picture of disembodied, altruistic policy makers maximizing some social utility function subject to the usual resource and technological constraints. This view of the State is highly misleading, . . . By contrast, it is more useful to follow the "new political economy" and view the State as composed of a group of self-regarding individuals and groups.

In concluding his study of Brazilian policymaking, Leff (1968, p. 184) draws a similar conclusion:

> The relatively meager influence that groups from the broader society have been able to exercise over the political elite and economic policy-making should not appear unusual. . . . [V]ery few countries have followed the "classic" experience of nineteenth-century Britain or the United States, in which emerging socioeconomic groups were able to take control of the state machinery. Rather, the Brazilian case seems closer to what has been in fact the modal pattern, in which the politicians and the bureaucracy dominate groups such as the industrialists, and through manipulation of the power and economic resources of the state deprive them of much of their political potential.

A Model of LDC Government Behavior

The economic policies of LDC governments cover a wide range: exchange rates, interest rates, inflation, farm prices, input prices for agriculture and other sectors, subsidies for consumer goods (such as electricity and food), licensing laws for domestic and foreign businesses, public ownership, and many more. All of these diverse policies have one common element, an unwillingness to let unrestricted markets determine prices and quantities. These are policies that restrict and modify market outcomes (RAMMO).[1]

[1]Mosley (1988, p. 52), in discussing the IMF and World Bank pressure on LDC governments to change these policies, refers to them as creating a "shield against market forces."

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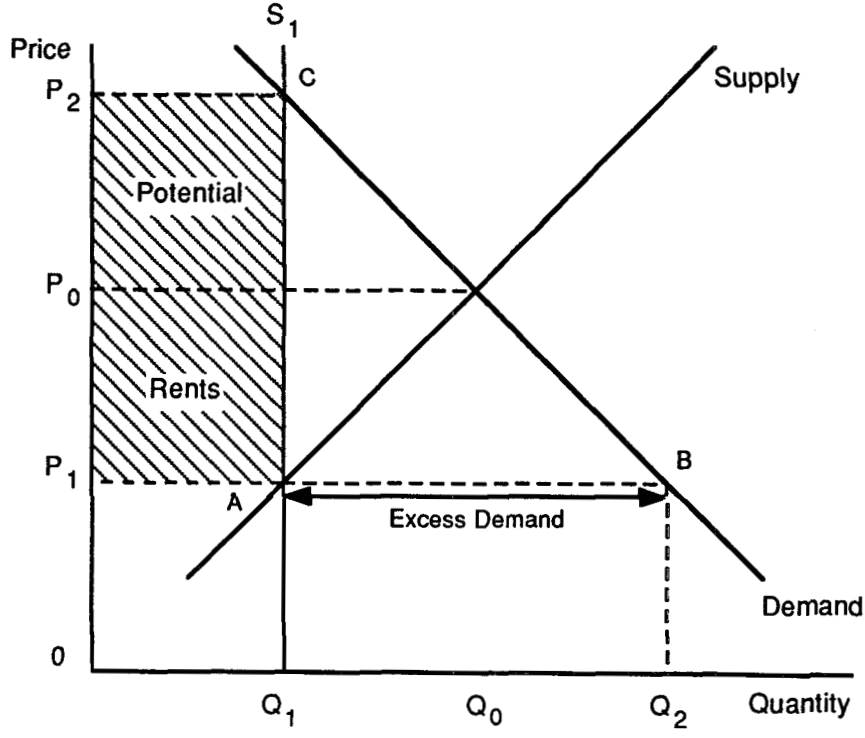
Numerous economic policies fall into the RAMMO category. Almost all of these policies are pushing the price and quantity away from the market equilibrium. The policies create either an excess demand or an excess supply. However, an excess supply in one market implies an excess demand in one or more other markets. We can analyze the common component of all the RAMMO policies in terms of the excess demand they create (Figure 1). The excess demand of AB can be thought of as caused by a price ceiling of P_1, which keeps the legal price below the equilibrium price of P_0. At P_1, the quantity demanded of Q_2 exceeds the quantity supplied of Q_1. The excess demand means that buyers are willing to pay more than the legal ceiling price of P_1. Given the limited quantity supplied of Q_1, there are unsatisfied buyers who value the good more than P_1; that is, the price ceiling has created rents, which are potentially equal to the rectangle P_1ACP_2.

FIGURE 1

EXCESS DEMAND AND POTENTIAL RENTS WITH A PRICE CEILING



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Anyone who has control of some or all of the Q_1 units that are supplied at the legal ceiling price can sell them (on a black or parallel market) for a higher price (with a maximum of P_2). Thus, there are profits (rents) to be made above the opportunity cost for anyone controlling access to a significant share of Q_1. Since government officials control access, they stand to benefit from RAMMO policies. The good or service in excess demand can be sold for its opportunity cost *plus* the rents that accrue to the ruling elite in LDCs. These rents can take the form of direct payments, such as bribes, to government officials or indirect payments, such as political support. The government splits the created rent with the buyers of the artificially scarce good or service. It takes part of the rent and the "rent buyers" take the rest.

Running the government of an LDC can be extremely profitable. For instance, Hanson (1971, p. 126) describes Mexico during the 1960s:

> The average minister or director finishes his term with two or three houses, a good library, two or three automobiles, a ranch, and $100,000 cash; about 25 directors and ministers hold posts from which they can leave office with fifty times that amount in cash.

According to Diamond (1987, pp. 575–78), running the government has even been very enriching in much poorer Africa:

> But it is the salaries at the top of the civil-service scale that . . . are even more strikingly elevated above per capita GDP. As of 1963–64 the ratio of the former to the latter was 73:1 in Malawi, 82:1 in Kenya, 96:1 in Tanganyika, 118:1 in Nigeria, and 130:1 in Uganda. . . . These figures do not include the enviable perquisites (subsidized housing, transportation, medical care, pensions) that usually accompany these hefty salaries. . . . Despite the African state's enormous financial burden of remunerating its officials, this is everywhere supplemented and in many countries dwarfed by the political corruption.

Equally important, those people allowed to buy the good or service in restricted supply can be targeted fairly precisely. For example, if the price ceiling is a fixed exchange rate below the equilibrium price of foreign currency, this below-market price will encourage imports and discourage exports tending to use up reserves of foreign currency. The shortage of foreign currency that this policy creates can be used to justify controls on the access to foreign currency. The valuable licenses to get foreign currency can be distributed very precisely to key supporters of the government (or to preempt potential leaders of the opposition). Exchange rates that are set below equilibrium give the government discretion to help some and hurt

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others. The finance minister of Ghana opposed a suggested devaluation in 1971 because "it would remove the discretion of economic management from the government" (quoted in Nelson 1988, p. 93). The research by Wade (1985, p. 480) on state government in India led him to conclude:

> The essential business of a state Minister is not to make policy. It is to modify the application of rules and regulations on a particularistic basis, in return for money and/or loyalty. The telephone is his essential instrument, for his orders modifying the application of general rules are only rarely written.

In sum, RAMMO policies create rents by producing excess demand. The decisionmakers in the government split the rents with selected individuals or groups in return for political support or direct income.

We can contrast the RAMMO policies with policies that allow market outcomes (AMO), that is, those policies that permit free entry and allow prices and quantities to be determined by supply and demand. The sellers and buyers in markets where AMO policies are followed get no special benefits (beyond those that the whole population receives) from the government. Thus, the buyers and sellers have no special incentives to pay bribes or give political support to the government.

This paper will analyze the choices of LDC governments between RAMMO and AMO policies with a simple public choice model. The paper assumes that decisionmakers in government attempt to maximize their *private* benefits just as consumers and firms do. Imputing utility maximizing behavior to public sector decisionmakers does not automatically lead to the conclusion that they will not act in the general interest; whether they do or do not depends on the system of rewards and constraints that decisionmakers face. As Adam Smith demonstrated for firms, self-interested parties will act in the general interest if properly constrained and rewarded. However, the public choice approach does imply that public sector decisionmakers will act in the general interest *only if* the constraints and incentives on their behavior make serving the general interest also in their private interest.

The model of LDC government behavior will assume the government—or more accurately, powerful individuals in the government—has two major objectives: (1) staying in power and (2) securing the maximum possible income consistent with staying in power. Obviously, much of the analysis would also apply to governments of developed market economies. But the context of policymaking and

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the degree of RAMMO policies are generally believed to be sufficiently different in the LDCs to merit a separate treatment.

Staying in power involves getting and strengthening support from voters or the military, where the relative importance of voters and the military will vary between countries and over time. Potential supporters of the government can be divided into two groups: (1) the general public, including firms not benefiting from RAMMO-created rents and (2) beneficiaries from RAMMO-created rents, including private individuals, firms, elected government officials, and bureaucrats.

The making of economic policy involves a choice between RAMMO and AMO policies. The government decisionmakers will choose those policies that provide the maximum benefits to them in terms of general support, support from beneficiaries of RAMMO-created rents, and direct income. Presumably, governments first implement policies that are essential to minimal functioning of the economy. These policies include national defense, public health, basic education, enforcement of a basic legal framework including property rights, and building essential infrastructure. Failure to provide the basics would generate widespread opposition. The difficult choices come after the basic programs are in place.

If we consider the choice between RAMMO policies and AMO policies, AMO policies will gain general support to the extent that the public perceives them to be beneficial. RAMMO policies also can gain general support if the public perceives them to be beneficial. Moreover, those individuals and groups who stand to gain directly from splitting the rents with the government will strongly support RAMMO policies. Accordingly, the rational maximizing government will pursue RAMMO policies to the point where they provide fewer benefits to the public than AMO policies. In equilibrium, the AMO policies will generally benefit the public more than RAMMO policies. This equilibrium condition would include, as a special case, the view that RAMMO policies always cause net losses to the public. However, equilibrium is also consistent with a more general view, namely, that up to some point RAMMO policies benefit the public but then begin to reduce general welfare.

The government's ability to pursue RAMMO policies beyond the point where they benefit the general public as much as AMO policies will be constrained by the public's ability and willingness to punish the government for creating and dividing rents with various groups and individuals. If the government is not democratic (as in Zaire) or is weakly democratic (as in Mexico) or if the cost of information about what the government is doing is high (many illiterate voters), then

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the government will be able to pursue RAMMO policies well beyond the point where they benefit the public as much as AMO policies.

Nondemocratic and weakly democratic governments appear to be very widespread in the LDCs. For this paper, I ranked 102 non-Communist LDCs on a scale of 0 to 3, with 3 being democratic with contested multiparty elections, free press, and at least one change of the party in power, and with 0 being no period of democratic elections and a controlled press. Of the 102 countries, 54 ranked 0, 21 ranked 1, 18 ranked 2, and only 9 ranked 3.[2] The high cost of information resulting from illiteracy and the weak access to news media are also very widespread in the LDCs, especially in rural areas.[3]

Governments can, of course, use resources to reduce the flow of information about the effects of their policies. Government control of the media or censorship of privately owned media are very useful for this purpose. (A free press has existed since independence in only 33 of the 102 countries I surveyed; government ownership of radio and TV facilities is the rule.) Keeping large shares of government records secret (or keeping no government records) also limits public information about the effects of policies. The government can invest resources to persuade the public that rent-creating policies are in the general interest. Nationalism serves this function in many LDCs. If the government succeeds in limiting information about the rent-creating effects of RAMMO policies, it is freer to pursue such policies. Clearly, many LDC governments do extensively limit and manipulate the flow of information about the precise nature and effects of their policies.

In sum, the conditions appear to exist in a large number of LDCs that would make it rational for the government to pursue RAMMO policies up to the point where any benefits to the general public were considerably less than those from AMO policy alternatives.

In his study of Nigeria through the mid-1960s, Arthur Lewis (1966, p. 39) wrote the following:

> Excessive political intervention in the making of economic decisions, . . . This is a disease which Nigeria suffers with most other

[2]The rankings are based on the *Political Handbook of the World 1986*, edited by Robert Banks. Points were awarded on the following basis: 1 point was given for an uncontrolled press, and 2 points for democratic elections (contested multiparty with opposition winning at least once) since independence. The 2 points for democratic elections were reduced to 1 if democratic elections existed for a significant part of the period since independence, but not the whole period.

[3]T. W. Schultz, M. Lipton, R. Bates, and others have documented extensive government biases against the rural *majority* using RAMMO policies of price controls, subsidies, and so forth.

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> newly independent countries where it is common for decisions involving millions of pounds to be made as a result of conversations between politicians, without documents or expert advice. . . . Nigerian government needs the following reforms: . . . Machinery similar to Tenders Boards to be created for all other instances of awarding government favours, such as import licensing, immigration quotas, pioneer status, allocation of land and houses. Corruption in these spheres has poisoned Nigeria's public life and turned politics into such a money making business that the politician in power will do anything to prevent himself from being displaced. . . . The idea of the public corporation—body of independent persons who will look after the public interest without political favour—is inappropriate to Nigeria.

RAMMO policies in the developed countries are usually analyzed under the heading of "rent seeking," that is, the process whereby the group splitting the rents with the government takes the initiative to push for RAMMO policies. The results of standard rent-seeking analysis would not differ much from the approach taken here, whereby "rent-creating" governments take the initiative for RAMMO policies. However, starting with government decisionmakers rather than groups or individuals splitting rents with the government seems preferable for analyzing the LDCs. First, because most of the LDC governments are not democratic, modeling the initiative from the government side seems more appropriate. Deepak Lal (1987, p. 282) describes the issue as follows:

> One could, following the "State as pressure group" school of political economy, seek to explain the move to liberalization as resulting from a new pressure group equilibrium. But this model of political economy relies on political institutions corresponding to those in Western democracies. Its applicability to the varied authoritarian regimes in the developing world would seem to be limited.

Second, the rent-seeking approach to LDCs does not *directly* challenge the usual assumption that decisionmakers in the government are disinterested public servants. It is equally consistent with the media view that LDC government decisionmakers "want to implement reforms, but the political pressures on them are too strong," the implication being that decisionmakers want to do what is in the public interest but exogenous pressures prevent it. The rent-creating formulation eliminates the loophole that gets LDC government officials off the hook for bad policies. Finally, the main rent-seeking groups may be parts of the public sector, such as civil servants, officials of public corporations, or army officers (Nelson 1988).

In many LDCs, elected governments control the political game for long periods. The Brazilian government, for example, was immune

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from pressure-group control before the military takeover in 1964. As Leff (1968, p. 117) noted:

> The state penetrated and took control of the interest groups rather than let them develop as an independent power center. . . . This phenomenon of peleguismo—the President's nomination of interest-group leaders—has been especially marked with the labor unions, but it has also occurred with the business associations. Finally reinforcing its dominance, the government has available policy instruments which give it decisive power over the fate of many industrial enterprises. . . . Apart from the government's sheer quantitative importance in the economy, it has the two strategic vantage points just cited—discretionary control over credits and imports.

Karl Jackson reached similar conclusions about Indonesia in the 1970s:

> My major thesis is that at least since 1957 . . . the basic form of government has not changed fundamentally. . . . Indonesia remains a bureaucratic polity—that is, a political system in which power and participation in national decisions are limited almost entirely to the employees of the state. . . . National policies are established by a small ruling circle whose members respond primarily, . . . to the values and interests of less than one thousand persons comprising the bureaucratic, technocratic, and military elite of the country. Although Sukarno's policies brought national economic ruin, adversely affecting the lives of tens of millions of Indonesians, the regime endured as long as a significant proportion of the Jakarta elite remained satisfied [in Jackson and Pye 1978, p. 3].

Policies that Restrict and Modify Market Outcomes (RAMMO)

Quantitative tests of the public choice hypothesis of this paper are virtually impossible for LDCs. As an alternative, this section applies the basic theoretical scheme from the previous section to a range of specific LDC government economic policies. This application demonstrates that the public choice hypothesis is consist with the broad outlines of economic policies in the LDCs. For the various areas of economic policy, the paper will argue that (1) while the general class of policies may have a certain economic logic, the specifics as implemented do not pass either efficiency or distributional tests; and (2) the specific policies, as implemented, provide very wide opportunities for rent creation and for targeting specific groups to split the rents with the government. In short, the argument is that many LDC policies are inconsistent with either efficiency or

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antipoverty goals, but they are quite consistent with self-interested behavior by government decisionmakers.

The RAMMO policies discussed in this section are typical for the LDCs in the sense that most LDCs have followed these types of policies for long periods. However, economic policies differ between LDCs and change over time so that not all LDCs have followed policies like those described here; some LDCs may have followed policies like these in the past, but no longer do so; and the whole set listed is only representative and is not the precise actual policies followed by any particular country.

Foreign Currency Markets and Import Substitution Policies

As was mentioned earlier, a frequent RAMMO policy is to overvalue the domestic currency, that is, to set the price of foreign currency below the free-market equilibrium. This policy reduces exports, increases imports, and produces a shortage of foreign currency. LDC governments typically respond to the shortage by instituting foreign currency controls. The shortage reflects the underpricing of the foreign currency and means a license to legally obtain foreign currency is valuable. A bureaucracy must establish rules to determine who gets the licenses, and in doing so can favor specific individuals in exchange for various sorts of benefits to the government.

The foreign currency controls amount to a system of import controls since only those who receive foreign currency licenses can legally import. The policy package usually also includes export promotion subsidies of various kinds. The supposed logic of the export promotion is that the shortage of foreign currency, caused by the overvalued domestic currency, makes it difficult to find the necessary foreign currency to pay for essential imports.

It should be noted that foreign currency licensing procedures or import restrictions can be used selectively to protect domestic producers in various sectors or subsectors of the economy from foreign competition. Many of the products protected from import competition by import restrictions have a small domestic market that can support a few or even only one producer. As a result, the protection from import competition produces oligopolistic or monopolistic domestic markets (Krueger 1988). Protection from foreign competition also produces "rents," which can be sold for political support or direct income.

In the administration of licenses for foreign currency, priority is usually given to capital goods imports. The overvaluation of domestic currency means that costs of imported capital goods are artificially

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reduced. Thus, there is an inefficient use of resources: The economy is moved away from using unskilled labor, which is relatively abundant, and toward the use of capital, which is relatively scarce (Krueger 1988).

The export promotion subsidies are valuable to domestic producers of goods or services targeted for export promotion. The official policy can be targeted in terms of specific sectors and subsectors of the economy in general; the administration of the policy can be targeted in terms of specific firms. The export subsidy may be available to all exporters of a specific good, but a government bureaucracy must officially determine that a firm, in fact, exported a sufficient percentage of its production and thus qualifies for the subsidy. Obtaining that official determination can require payment in political support or bribes.

From a purely economic perspective, the controlled exchange rate that overvalues domestic currency is difficult to justify given that it discourages exports and encourages imports. It is almost impossible to economically justify a policy of an overvalued currency combined with export subsidies. All economic rationale disappears when the policy package also produces noncompetitive markets and increases the capital to labor ratio. The rents from this policy complex do not accrue to the poor, and increasing the capital to labor ratio has a negative distributional impact.

However, from the standpoint of the maximizing government decisionmaker, the policy of an overvalued currency combined with export subsidies makes good sense. All pieces of the policy package provide political benefits or direct income. The alternatives of an equilibrium fixed exchange rate or a floating exchange rate would create no rents to be sold. In short, the economically inefficient policy is politically quite efficient.

Agricultural Price Controls

A great many LDC governments reduce to below the market equilibrium price the prices received by farmers for their products. This reduction is done in various ways including compulsory sales to government marketing boards, price controls, and so forth. The price reductions are imposed on various segments of the agricultural products market, export products, food sold in the cities, and industrial crops processed domestically. The various types of price reduction produce either direct revenue for the government (marketing boards buying at below the world price from farmers) or rents that can be split with urban consumers (food price controls) or with domestic

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processors of agricultural products (industrial or processed food crops).

The marketing boards are basically a form of taxation. However, it is frequently possible to buy the right to sell without the intermediary of the marketing board, so there is rent creation as well. The food price controls and the price controls of industrial crops sold domestically are directly rent creating for the beneficiary groups, and they are chosen instead of alternative policies that would produce fewer rents for the government to sell for political support.

For example, the food price controls presumably are a policy to help low-income people. The majority of low-income people in most LDCs are rural because most of the population is rural and because rural LDC incomes average considerably below urban incomes (Jain 1975). Most rural people in LDCs make their living from food production either as independent farmers or as hired laborers in agriculture whose income falls when the prices of agricultural products are reduced. Moreover, low-income urban people could be similarly helped with income supplements, food stamps, and the like. Studies of food price controls usually find that urban families with moderate or fairly high incomes receive a substantial share of the benefits from food price controls (World Bank 1986, p. 92). Giving income supplements to moderate or fairly high income urban families directly would be politically more difficult. However, hiding the subsidy in a general policy of lower food prices will reduce the cost in political support from the lower-income majority without losing the gains in support from subsidized moderate- or high-income urban families.

The lower prices received by farmers reduce the quantity they supply to the market. Frequently, the reduced supply by farmers causes problems including food shortages in the cities, lack of inputs for industry, or reduced exports. Accordingly, the government tries various means to induce higher agricultural production without allowing output prices to rise to market equlibrium levels. The most common means are the provision of subsidized inputs that, at various times in various countries, have included capital in the form of low-interest loans, fertilizer, fuel, irrigation water, and land. The various subsidies can be targeted to favored regions, tribes, or even, in some cases, individuals. The subsidized inputs create additional rents that the government can split. Robert Bates (1981, pp. 52–61) documents how the distribution of subsidized credit, fertilizer, and secure land tenure has been skewed to the wealthy, civil servants and to the politically connected in Ghana, Nigeria, Sudan, and Kenya.

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One of the few detailed studies of the sums involved in subsidized inputs and the bribes paid to the relevant government officials is in Wade's studies during the late 1970s in India. During this period, per capita gross national product (GNP) was between 1,300 and 1,600 rupies in India. His main focus is on the sums moving up the ladder as lower-level water engineers pay for their positions, which allow them to collect bribes from villages. Wade (1985, pp. 478–79) wrote:

> So also with the sale of water and water protection; there is a fairly standard amount that vulnerable villages can expect to pay, and on top of that an additional amount that varies with weather conditions. . . . Using conservative estimates, I calculate that an Assistant Engineer in an O&M (operations & maintenance) post on an *upland* canal might expect to earn illicitly *at least* one to two times his annual official salary each year, net of what he has to pay upwards to the Executive Engineer. The corresponding figure for the Executive Engineer is probably more like three to five times. . . . In the late 1970s, Assistant Engineers had to pay anything from Rs. 10,000 to Rs. 50,000 for an O&M posting on the uplands; on the deltas, probably more. . . . The average Assistant Engineer's salary . . . with all allowances included, was about Rs. 23,000 a year. Executive Engineers had to pay anything from Rs. 50,000–100,000 . . . on the deltas, up to Rs. 300,000–400,000. The average Executive Engineer's salary was Rs. 29,000 a year. A few Superintendent Engineer's posts . . . were costing Rs. 1,200,000–1,500,000, or some 40 times the average salary for that rank. The normal duration of a posting is two years.

Thus, engineers were legally making 15 to 25 times per capita GNP and were netting bribes of another 15 to 125 times per capita GNP *after* paying a price of 6 to 1,000 times per capita GNP every two years for their positions.

Agricultural output price reductions, combined with input price subsidies, are parallel to the policy of an overvalued currency combined with export subsidies. The return to the producer is lowered by a government policy, and then another policy is added to mitigate the output reducing effects of lower output prices. If the secondary policy is input price subsidies, not all inputs are subsidized equally. As a result of the change in relative prices of inputs, the input mix changes to using more of the subsidized input and less of other inputs. All of the secondary policies with their problems could be avoided by not reducing output prices. Any economically valuable effects of output price controls could be achieved at a much lower cost by policies directed toward the beneficiary group directly, policies such as income supplements and lower taxes. Since those employed in agriculture are the majority of the poor, these policies also do not improve income distribution.

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Arthur Lewis (1966, pp. 16–22) pointed out the very serious negative impact of lower prices received by farmers for export crops in Nigeria:

> *The growth of agricultural exports has been the main element carrying the economy.* . . . The producer price is substantially below the f.o.b. price, not only because the [Marketing] Board makes a profit, but also because the governments extract both export duties and a sales tax. Thus in 1964–65 the ratio of the producer price to the f.o.b. price was as follows: Cocoa 69%, Groundnuts 64%, Seed Cotton 54%, Palm kernels 51%, Palm oil 50%. *Clearly the governments have had their hands on the throat of the goose which is laying the golden eggs.* . . . The terms of trade have moved against the farmers, in favour of other classes. For example the minimum government wage in Lagos has risen from 9d. a day to 7s.5d, an index of 990. *The shift has been particularly marked since 1960,* with producer prices falling while urban wages are rising. This is one of the reasons why young people are deserting farming for the towns, to the point where there is severe unemployment in all major towns, coinciding with a shortage of labour in the countryside [emphasis added].

However, from a standpoint of the maximizing government decisionmaker, the policy of reduced output prices for agriculture, combined with input subsidies and other inducements for farmers to produce, is quite rational. All of the pieces of the policy package provide political benefits or direct income. The AMO policy of allowing output and input prices to be determined by unrestricted markets will create no rents to be sold. In short, the RAMMO policy, which is economically inefficient and distributionally negative, is politically quite efficient.

Industry

LDC government policies with respect to industry are more varied than with respect to agriculture, so any generalizations about industrial policies will have more exceptions than generalizations about agricultural policies. LDC government policies toward industry frequently include four major types of RAMMO policies: (1) protection from import competition; (2) minimum wage, unionization, social security, and similar policies that increase the cost of labor; (3) reduction of the prices of other inputs; and (4) wide-spread government ownership. From the perspective of rent creation, government ownership of industry is not significantly different from government ownership of transport, utilities, or other producers of nongovernment goods or services. Government ownership in general is discussed in the next subsection.

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As mentioned above, protection from import competition will tend to produce a rent for domestic producers, a rent that the government can split with the producers. Policies that increase the returns to industrial labor can be traded for support by unions and various groups of industrial workers. Subsidized inputs to industry produce the same types of rents as subsidized inputs to other sectors.

There is a wealth of literature about the pros and cons of protection of industry from import competition. But most interesting from this paper's perspective is not the perceived, potential, or actual results of protecting domestic industry from import competition, but rather the motivation. How much of the marked preference of so many LDC governments for such policies is due to the belief that they work, and how much is due to the simple political benefits to be gained from the rents that protectionism creates? This issue is further explored in the final section of the paper.

The RAMMO input policies toward industry are clearly economically inefficient, and they do not help the poor. One of the main attractions of industry is to provide nonagricultural employment; if the cost of labor is pushed up, this reduces any benefits along these lines. Compensating for the higher cost of labor by subsidizing the cost of capital, of course, only makes the situation worse by inducing industry to substitute capital for labor. However, the political benefits from producing high-paying jobs for the faithful along with cheap loans for the loyal and generous are very real.

Government Ownership of Productive Enterprises

Government ownership of productive enterprises in industry or in other sectors of the economy is a very powerful producer of political support and of direct income to those running the government. Government-owned enterprises are not government agencies; the setting up of state-owned enterprises (SOEs) reduces the accountability of the government. Thus, SOEs make it easier to overpay employees, especially managers. Government enterprises can easily be used to provide large numbers of moderately well-paying, secure, low work jobs for lower-level government supporters. This policy is, of course, easily sold as "fighting unemployment." Which private firms supply inputs to government-owned enterprises can be decided on the basis of political support and bribes. Government enterprises can be directed to sell at a loss to favored privately owned firms.

The World Bank, in its *World Development Report* (1988, p. 173), puts the point as follows:

> The failure to view public finances comprehensively is not entirely caused by a lack of data. SOEs were often set up or enlarged pre-

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> cisely because they were largely exempt from fiscal control. . . . SOEs have therefore been both a cause and a symptom of weak fiscal discipline and lack of transparency. Transparency—the ability to assess the financial implications of public sector activities in advance, to evaluate them after the fact, and to identify who bears the costs and who receives the benefits—is necessary if decision makers are to be accountable for their actions.

A good example is Pemex, the Mexican Government Oil monopoly. Roger Hanson (1971, p. 125) described the profits to government officials in the following terms:

> The nationalization of the oil industry in Mexico has proved highly profitable to many leading politicians. First of all, the products from the state-owned Pemex Company are generally transported by private trucking concerns, usually the property of politicians. Second, when Pemex decided that filling stations should remain in private hands, the best locations were acquired by a few revolutionary politicians, and an absence of competition converted a filling station into an absolute monopoly. Finally, in the case of the few petrochemical plants left to the private sector, politicians are conspicuous as owners.

Government-owned railroads, electric companies, water companies, and the like provide additional possibilities for favoring certain groups in exchange for support. They deliver services that depend on the building of an expensive, local-service, delivery network. Because of limited investment funds, items such as tracks and power lines cannot be built everywhere. Which regions, localities, or even neighborhoods get them first (or ever) can easily be made to depend on political support.

Some government enterprises are efficient, of course, but huge numbers have been found to be economically inefficient. According to the World Bank (1988, p. 180):

> Some SOEs in developing countries have been able to operate as successful commercial ventures without burdening public finances. . . . In most countries, however, many have drained budgetary resources, contributed to overall public sector deficits, weakened fiscal management, and *made negative contributions to value added* [emphasis added].

One can only wonder how much of the actual inefficiency is unavoidable and how much is due to the use of these enterprises for political purposes? In any case, the political benefits from state-owned enterprises are enormous.

Consumer Subsidies

Government agencies and enterprises provide a wide variety of products to certain groups of consumers at often highly subsidized

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prices—far below the opportunity cost and frequently below the variable cost of production. These subsidized consumer products include food, fuel, electricity, housing, water, transportation, and education. The rationale for most of these subsidies is to provide "basic needs" to "the poor."

Providing goods and services below cost, however, creates an excess demand no matter how basic the need for them. This raises the question, who will get the valuable access to the subsidized goodies? The officials in charge of rationing them can charge the public directly for their services. John Waterbury (1976, p. 429), using his research in Morocco and Egypt, described the situation as follows:

> Three types of government action must be singled out for attention in this respect: welfare services, regulatory measures, and basic documentation. Egypt and Morocco, . . . aspire to mass universal welfare services for all citizens. . . . Education, public health, public housing, agricultural and small business credit, social security, health insurance, electricity, running water, irrigation systems, cooperative markets, make-work projects, . . . In neither Egypt nor Morocco are government revenues sufficient to extend these services equally to all who claim them. Access to them may well entail abuse of public office for pecuniary or political advantage in the determination of who will get what, when. . . . It is common throughout the educational system, (Egypt) but above all at the secondary and university levels, for teachers and instructors to offer private tutoring to their students. . . . In addition, passing and failing critical examinations has come increasingly to hinge on whether or not one takes the instructor's private course.

Many of the subsidized services or goods are available only in urban areas where the poor are not as poor as the larger numbers of rural poor. For example, the World Bank (1988) reports there were partial social security systems in 76 low- and middle-income LDCs, but many of these systems apply only to urban workers in the formal sector. As a result,

> Only in industrial countries and several middle-income countries in Latin America . . . and a few other countries . . . are most of the labor force and population covered. In most other countries less than 10 percent of the population, primarily in urban areas, is covered. Coverage is highly correlated with income, work skills, and power of pressure groups. If social security is funded from general revenues, it can be a mechanism for a regressive redistribution [pp. 139–140].

The urban bias in government-subsidized services is one of the reasons for the constant net migration to the cities. Jackson described the situation in Indonesia in the 1970s as follows:

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> The reason many Indonesians are moving to the cities is that most things in life worth having are located there, . . . Social services other than primary schooling are almost never available in the villages, for doctors, nurses, hospitals, mail service, electricity, telephones, high schools, universities, and government department offices are all located in the towns and cities. . . . The 4 percent of the national population residing in Jakarta . . . 35 percent of all private automobiles are registered there, and the citizens of Jakarta possess 55 percent of all the television sets, 10 to 15 percent of the radio receivers, and most of the newspapers in Indonesia [in Jackson and Pye 1978, pp. 32–33].

Furthermore, as was pointed out about food price controls, selling goods or services at subsidized prices makes it much easier for middle-income groups also to benefit. For example, of subsidies to higher education in eight Latin American and Asian countries, only 2–17 percent went to students from the lowest 40 percent of the income distribution, and 34–83 precent went to students from the highest 20 percent of the income distribution (World Bank 1988, p. 136). Similarly, subsidized electricity usually aids middle- and upper-income people. As the World Bank (1988, p. 143) reported,

> Subsidizing the unit cost of electricity encourages waste and fails to aid the small consumer, who has few appliances, let alone the majority of poor households, which lack access altogether.

The problem of subsidized government services not serving the urban poor—let alone the much larger mass of poor in the rural regions—is very widespread:

> Heavy subsidies in urban infrastructure often fail to reach the poor. The poorest members of urban society do not use the most expensive forms of urban transport. For example, the Caracas metro, due to be completed in 1990 [cost estimated at 1.44 billion 1983 dollars], will not directly serve the lowest income groups; they demand few of the longer trips that the metro will provide, and they neither live nor work on the main line. Middle-income groups are expected to benefit the most. As noted above, one-quarter of the developing world's urban population has no access to safe water. These are the city's poorest; many have to buy water from private vendors at rates from 4 to 100 times higher than those paid by the more fortunate, who have access to piped water [World Bank 1988, p. 145].

Clearly, subsidies that in a significant part go to middle-income people are not an efficient way to help the poor. However, the ability to disguise aid to the less-poor or even middle-income groups in the cities may be the real point of the procedure. In other words, the income transfer is brought about by price reductions (instead of

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income supplements) because the price reductions produce less information about the recipients of the transfers.

Interest Rates, Financial Intermediaries, and Capital–Labor Ratios

One of the most common and direct uses of price ceilings in "development policy" is the provision of subsidized credit to various sectors of the economy, such as agriculture, industry, and exporters. Fixing interest rates below the market-clearing level creates excess demands for loans and tends to reduce the supply of savings directly by reducing returns to savers and indirectly by weakening financial intermediaries. Dale Adams (1988, p. 366) wrote the following about rural credit programs:

> Debilitating policies, wrong headed evaluations, and a clutter of well-meaning, but damaging, credit projects force many rural financial intermediaries to their knees. Cheap rediscount facilities at central banks gut the incentives that banks and cooperatives have to mobilize rural savings deposits. This reorients the managers of these agencies away from rural clients to begging for additional funds from donors or governments. Political intrusions, loan targeting, and loan recovery problems are the offspring of this alliance. The multitude of credit projects imposed on financial intermediaries makes financial markets work less efficiently by increasing transactions costs. Repressed interest rates make it impossible to mobilize rural savings in substantial quantities and induce lenders to concentrate cheap loans in the hands of the wealthy. The rural poor are thus ultimately penalized on both their deposits and loans by low interest rate policies.

Dennis Anderson (1987, p. 890) reached similar conclusions with regard to the impact of artificially low interest rates on small-scale industry (SSI) that provides 40–95 percent of industrial employment in LDCs:

> The authors first discuss a now-familiar problem, alas, of the damage done to the development of financial intermediation in a developing country by the "artificially low interest rates" imposed on commercial finance. It is not only that such policies (i) raise the capital requirements of industrialization and (ii) reduce the demand for labor by raising capital/labor ratios, but that (iii) capital becomes less productive, and (iv) its overall supply is reduced as is, further, (v) the share of the reduced supply going to SSIs.

Artificially low interest rates are usually a central element in policies to encourage the growth of industry. However, by lowering the cost of capital relative to labor, below-market interest rates increase the capital-labor ratio, exactly the opposite from what is desired for

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LDCs. Actually, low interest rates are only one of a set of policies used by many LDCs to push up the capital-labor ratio. I. M. D. Little (1987, p. 232) lists the following:

> Apart from their effect through the pattern of output, government policies may be argued to have promoted capital intensity directly. Capital has been made cheap in numerous ways. Real interest rates have been held very low and have often been negative. Exchange rates are widely overvalued while imported machinery is exempted from import duties. Other tax concessions, such as accelerated depreciation, favor the use of capital. Government investments often ignore prices, and the most modern, capital intensive methods are chosen. . . . At the same time the predilection of large enterprises to pay high wages has been reinforced by governments. In many countries and cases the shift in the relative prices of capital and labor has been enormous.

It is impossible to find economic logic in encouraging the use of capital instead of labor in capital-scarce, labor-abundant economies. But politically, each of the specific RAMMO policies that artificially decrease the cost of capital (or increase the cost of labor) can be exchanged for support or bribes from business (or labor) organizations.

Regulation and Corruption

Government regulation of business in the LDCs is very extensive with permits needed for an incredible number of normal business activities. The process of getting these permits is very time consuming and frequently can be completed in a reasonable length of time only by paying bribes. Thus, although the regulations are advertised as "in the public interest," they mostly serve as a sure source of income for government officials at all levels.

In a study of corruption for the World Bank, Gould and Amaro-Reyes (1983, p. 34) conclude:

> Corruption, as this paper shows, is pervasive in the countries of Asia, Africa, and Latin America. The government monopoly of economic activities in developing countries, when combined with conditions of political "softness," widespread poverty and socioeconomic inequalities, ambivalence towards the legitimacy of government and its organizations and systematic maladministration, provides fertile grounds for corruption, which, according to much of the data examined, has a deleterious effect on administrative performance and economic and political development.

In his research on corruption in India, Wade (1985) showed that the institutionalization of corruption with the buying of posts at prices determined by the amount of bribes available was true in most

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departments of state government. Attractive posts were not only those controlling subsidized goods—like irrigation water—but also those enforcing laws and regulations:

> Officers of relevant rank who wish to be put in charge of a certain police station will bid for it (there are normal prices for each station, around which the bidding takes place). . . . Any department that has the power to inflict costly fines can raise money in the same way. Officers of the Labor Welfare Department can profit from employers by agreeing not to enforce the legislation. . . . In the Forestry Department, the big money is to be earned by the sale of illicit "rights" to cut commercial timber; . . . At the superintendent level of the Public Health Department, the cost of a transfer to a big hospital in a commercial district of a big city is much higher than most other postings; . . . the Agricultural Department, . . . provides opportunities for profit all the way up the hierarchy. The principal sources are black market sales of subsidized inputs . . . ; and kick-backs from private dealers who depend on the officials to certify that their inputs (seeds, fertilizers, etc.) meet quality standards. . . . If the adulterated seed fails to germinate, it is always because the cultivator sowed too deep, or the weather was not right, . . . the changing importance of the legislation that the department is responsible for enforcing affects the transfer price. Much more can be earned in the Revenue Department during a land reform scare than when no one is worried about land reform laws [Wade 1985, pp. 477–78].

John Waterbury (1976, p. 430) describes the situation in Egypt and Morocco with regard to business regulation and individual documentation as follows:

> Tax assessment, market inspection, safety regulation, price control, zoning laws, criminal and commercial law application of any kind are all subject to discriminatory enforcement or non-enforcement. . . . This documentation ranges from birth and marriage certificates, proof of residence and payment of taxes, police records, and driver's licenses to ration cards, draft cards, certificates of indigence, work permits, building permits, commercial licenses, passports, etc. . . . A market price for documents becomes known. . . . [C]orruption is not, as some have argued, a way to cut through red-tape but rather the price of routine performance. The alternative is not red-tape but non-performance.

It is sometimes argued that corruption is mainly redistributive, changing real production only to the extent that significant resources are invested in securing the positions that will receive bribes (Trivedi 1988). In fact, corruption can be negatively redistributive, that is, taking from the poor. More fundamentally, the argument that corruption influences only the distribution of a given government

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budget or the enforcement of a given set of government regulations is flawed—at least with regard to many LDCs—because it assumes that only bureaucrats are corrupt and that, at the legislative level, corruption makes no impact. In discussing the legislative oversight of the bureaucracy in India, Wade (1985, p. 482) wrote:

> Legislative scrutiny of departments tends to be weak. . . . [W]hat matters from the legislators' point of view is whether they are getting a satisfactory share of what the officials collect, or whether the officials are being sufficiently favorable to contractors-suppliers on whom they depend for finance, or to groups of electors whom they wish to oblige.

If lawmakers and those in control of government budgets share in the income from corruption, it is in their interest to increase the supply of subsidized goods and services that individuals will buy a share of and to increase the regulations that producers or individuals will buy exceptions to. As such, the government has an incentive to create additional distortions in the economy.

In Indonesia, for example, regulation has been a major barrier to the expansion of manufactured exports. According to McCawley (1981, p. 81):

> [A]t least as important as . . . recorded transport costs are the indirect pecuniary and non-pecuniary costs of exporting which are directly attributable to corruption and bureaucracy on the part of government trade officials. It is no exaggeration to say that the paper-work and procedural difficulties involved in the whole export process, together with the requirements for so-called "invisible payments," have created an atmosphere of frustration and resentment that permeates the Indonesian business community. It is difficult to overestimate the importance of this factor as a barrier to exporting; this government-imposed restraint on trade is, in itself, a major cause for "export pessimism" on the part of domestic manufacturers in Indonesia.

Obviously, excessive or totally unnecessary regulation is economically expensive, especially if it discourages small business or new enterprises. This overregulation slows job creation, innovation, and economic growth. Of course, the fruits of corruption do not go to the poor, so corruption serves no legitimate redistributive goals. However, the income from bribes and the ability to reward friends or punish enemies, by granting or denying permits, are extremely valuable. Government officials have a vested interest in excessive regulation. Even if the regulation is, in principle, economically beneficial, it can be administered in such a way that it is economically harmful but quite beneficial to government officials and politicians.

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Inflation and Management Problems

This subsection is not intended as a thorough discussion of the inflation problem in the LDCs or to supersede any existing analysis. The inflation tax will not be discussed here. What is of interest here is a different sort of benefit to government from inflation: the ability to exempt groups in the economy from the adjustments to nominal prices caused by inflation and thus to create transfers to them. The most important case is perhaps nominal interest rates set far below the inflation rate. This procedure has been used to transfer large sums to farmers—mostly wealthy farmers—in Brazil (Graham 1987). Obviously, with inflation at 50 percent and the interest rate fixed at 25 percent, there is a very large excess demand for such credit. Similarly, privileged groups can be exempted from the inflationary increase in the price of water, electricity, gasoline, and so forth. Again excess demand is created. Inflation allows a policy of overvalued currency to operate inside a very sophisticated crawling peg exchange rate; the exchange rate is merely adjusted slower than the excess of domestic inflation over world inflation.

One frequent element of serious inflation in the LDCs is a large government deficit or excess credit creation associated with loans to government enterprises (for example, Brazil). The deficit or excess lending by state banks is frequently seen as a lack of administrative control by the top government leaders over the bureaucracy in general or the parastatals in particular. However, this problem may not be due to an inability to set up adequate expenditure and lending controls, it may be due to the benefits to the top government leaders from weak fiscal controls. As Nelson (1988, p. 91) explained:

> Leaders may have adequate power but not be particularly eager to establish powerful, institutionalized procedures and staffs for advance coordination and on-going veting of expenditures. They prefer to keep most of that authority in their own hands. . . . Where top political leaders depend on their control over allocation of resources to maintain the loyalty of faction-ridden or personally ambitious lieutenants, they cannot lightly relinquish such control to an anonymous group of technical bureaucrats.

In the cases where excess government or state-owned enterprise spending is a major contributor to the inflation problem, the government, in addition to benefiting from the inflation tax, benefits politically from the mechanism (weak fiscal control or credit control) that is making the inflation problem more serious.

More generally, weak management controls are no accident in many LDC government and para-governmental organizations. Such

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weakness is necessary if managers are to use their power and budgets for political ends. In the case of Africa, Leonard (1987, p. 900) noted:

> Africans are unusual among the world's elites in the extent of their patronage obligations to poorer people and the strength of the moral pressures which they feel to fulfill them. For these reasons and for selfish ones that are far more universal, state organizations in Africa are extensively used to pursue informal, personal goals of their managers rather than the collective ones that are formally proclaimed.

It follows that the functioning of parastatal enterprises will not be insulated from political considerations by giving their managers more autonomy (see Leonard 1987, p. 906). Parastatals are set up to achieve political ends with the hope that they will also achieve economic goals. The political goals, however, are the higher priority; thus, any management reforms that would defeat the political ends will be unacceptable to the government. In short, managerial problems, including the politicizing of management decisions, are not solvable technocratically independent of the basic problem of pervasive use of government power for the benefit of those running the government.

Conclusion

There is room for theoretical argument about the economic benefits of a fixed exchange rate for the LDCs. However, it is difficult to justify an overvalued currency combined with export promotion subsidies. It may be hard to find the economic logic in price controls for agriculture, but it is impossible to find economic logic in price controls combined with input subsidies. There may be valid arguments for protecting "infant industries" from foreign competition, but there are no valid arguments for protection combined with policies that discriminate against small-scale industry. In short, while there may be some economic justification for individual RAMMO policies of LDCs, the policy *packages* implemented in practice make very little economic sense either in terms of efficiency and growth or in terms of income distribution to aid the poor.

However, as we move from individual RAMMO policies to the policy package, more rents are created. As a result, the ability increases for the government to profit in terms of political support or direct income. Adopting a package of RAMMO policies, therefore, makes very good sense from a public choice perspective of government decisionmakers who maximize their private benefits.

In discussions of LDC government policy, the following argument is frequently advanced: While the policies may not make good eco-

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nomic sense, those in government believe for ideological reasons (nationalism, socialism, anti-Western feelings, etc.) that they are the correct policies. For example, it is often argued that people in LDC governments do not believe that markets work in their countries, and this contention is frequently taken at face value by outside observers. Economic theory, however, offers a different explanation—one based on the assumption that self-interest is more important than beliefs. Ronald Findlay (1988, p. 87) put the point as follows:

> How is the "import-substitution syndrome" to be accounted for? One approach in line with Keynes's famous quote, is to stress the influence of ideas of some particular "defunct economist," from whose thoughts a "madman in authority . . . distills his frenzy." My own view is that ideas *per se* are not the exogenous force that Keynes makes them out to be. I prefer to proceed from "interests" with particular groups or leaders selecting those ideas that serve them best from the "menu" currently available.

The ideological belief in RAMMO policies may be totally sincere and still be irrelevant. In any line of endeavor, other things equal, people who believe in what they are doing are more likely to succeed. If success in LDC government is through RAMMO policies, then the person who believes in them and successfully implements them will gain power and wealth.

Empirically, countries like Peru, Nigeria, or Burma (where the leaders indicate serious reservations about the economic effectiveness of unrestricted markets) are all laissez faire compared to Stalin's Russia or Mao's China. Whatever their leaders' beliefs, the rejection of markets by LDC governments is really quite selective, and the areas selected for RAMMO policies tend to be ones where the policies pay high rents to those in government.

The public choice hypothesis of this paper has some important implications. First, the analysis of LDC government policies by economists has been missing the point in two key dimensions: One, the analysis of a particular policy is off the mark if it ignores the political and monetary benefits to people in government. These benefits are the real reason the policy is followed. As Bates (1988, p. 240) points out, it is not sufficient to know whether a particular policy helps or hurts economic growth and development; we also need to know, "Why do governments behave as they do? How are public policies chosen?" And two, we need to look at the actual implementation of the policy more directly. The opportunities for rent creation in the actual implementation may be the real point. Thus, it is inappropriate to separate the broad policy goal from the actual implementation and to assume that the stated broad policy goal was the real purpose of the

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policy even if implementation achieved something much different. LDC government leaders know just as well as government leaders in the developed countries how to distinguish between what a policy is sold as doing and what it actually does.

Second, there frequently are remarkable similarities between economic policies of left wing or right wing regimes, such as Indonesia under Suharto and Mexico, or Egypt and Morocco. The paper's analysis clarifies why these similarities would be the case: People in government are motivated by self-interest regardless of their philosophy.

Third, where governments have followed a more market-oriented approach—such as the Gang of Four in East Asia (or for that matter the governments of the developed countries)—we must look for constraints on the behavior of government officials that have pushed them to follow AMO rather than RAMMO policies.[4] In my view, exogenous resource constraints and foreign political pressures explain the choice of fundamental institutions and ideologies. For example, Ranis and Fei (1988) model the differences in policies between Taiwan and Latin America as effects of differences in natural resource constraints.

Fourth, the hypothesis of this paper puts a different "spin" on the problems of reform in LDCs. When LDC leaders discuss their negotiations with the World Bank or IMF about policy reforms to accompany rescheduling of debts, the leaders frequently state they are in favor of reform, but that the internal political opposition is too great. This contention, of course, could be true, but it is also true that the leaders have little or no interest in reform as long as they have any choice. As Krueger (quoted in Schwartz 1989, p. 8) put it:

> Policy reforms have been half-hearted, even to the point of being cosmetic in a number of instances. The typical scenario has involved strong resistance to policy reform on the part of key actors within the governments of the debtor countries. Advocacy of reforms has usually been by the international organizations. . . . These advocates have been resisted, and the outcome of negotiations has been a watered-down package. Even then, policies have often retrogressed in the weeks and months following announcement of a program.

Anna Schwartz (1989, p. 8) drew the following conclusion based on Krueger's statement:

[4]In spite of its generally effective policies, the government of South Korea saw fit to push through the introduction of a new rice variety against the will of agricultural researchers and of rice farmers, because the government expected net political gains from the policy package (Burmeister 1987).

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> Politicians' ambivalence about sustaining an economic reform package is not hard to understand. The short-run consequences of restructuring economies are not in the self-interest of politicians. . . . Governments fear riots and political discontent as the short-run price of reform policies.

Although Schwartz blames the debt problems on the LDC governments, she does not link the self-interest of these governments with rent-creating policies. Rather, she implies that the LDCs' long-run interest would be economically more efficient policies and that officials fear only the transition. Yet, as the quotes from Hanson (1971), Diamond (1987), and Wade (1985) illustrated, it would be very hard for the leaders of a free-market LDC to live as well as current LDC leaders do by pursuing rent-creating RAMMO policies.

A better understanding of why LDC governments follow the policies they do is important for the practical efforts to improve those policies and accelerate LDC economic growth. It is also important for understanding the growth process in the LDCs. Since government policies have such a large impact on LDC economic growth, we will not fully understand their growth patterns until we understand the factors determining the major choices of government economic policy.

It is important to repeat the caveat from the third section of this paper: The public choice hypothesis and the discussion of particular RAMMO policies in the LDCs should be seen as representative; our analysis and discussion does not apply to all LDCs at all times. In particular, when the economy reaches a crisis point, those in government may be forced to change various RAMMO policies and switch to AMO policies—a transition that is now occuring in many socialist countries.

The public choice hypothesis presented here is a static one about the modal pattern of LDC government economic policies. It does not attempt to explain why policies differ between countries and how and why they change over time. In particular, it does not tackle the key issue: Under what circumstances will the economic damage from rent-creating RAMMO policies eventually cause very high political costs to those in government? From a public choice perspective, the differences between policy patterns of various LDCs and major changes over time in policy patterns can be explained by differences in, and changes in, the constraints on the governments' behavior. Whether the public choice paradigm is fruitful in explaining the problem of transition from RAMMO to AMO policies, however, awaits further research.

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Efficiency Implications of the Sindell–Rexall Rule

John P. Speir

In 1980, California established the rule of market share liability in *Sindell v. Abbott Laboratories.*[1] This rule sets a firm's liability equal to its market share. Thus, if a firm has 50 percent of the market, it is liable for 50 percent of total damages. Recently, the U.S. Supreme Court refused to hear *Rexall Drug Co. v. Tigue.*[2] This case originated in New York and expands the *Sindell* rule of apportioning the level of a firm's liability in accordance to the firm's market share. *Rexall* expanded *Sindell* by holding Rexall liable for its market share of damages, even though Rexall had shown that its product could not have caused the damages. Although market-share liability has so far been applied only to the pharmaceutical industry, specifically in DES (diethylstilbestrol) suits, this paper considers the general implications of this rule for the provision of care.[3] In particular, the analysis focuses on the impact of altering the rule of products liability—from having a firm pay for its own damages to that of market-share liability.

The first section of the paper considers the division of damages under the classical theory of tort, while the second section examines the efficiency implications of the adoption of the Sindell–Rexall (S-R) rule. The paper reaches two conclusions: (1) The adoption of the Sindell–Rexall rule reduces a firm's perception of the marginal benefits from providing care and leads to a reduction in care. (2) Low-care provider's costs fall while high-care provider's costs rise, leading

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The author is Assistant Professor of Economics at the University of Hartford. He thanks D. T. Armentano and Kenneth Friedman for their comments on an earlier version of the paper.

[1]26 Cal. 3d 588, 607 P. 2d 924 (1980).

[2]73 N.Y. 2d 487; 539 N.E. 2d 1069 (1989). See also Greenhouse (1989) and Wermiel (1989).

[3]Landes and Posner (1987, p. 212) briefly discuss market-share liability and DES cases.

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to an expansion of output by the low-care firm and a contraction in output by the high-care firm.

Sindell and the Abandonment of Causality

The classical theory of tort contains three elements of a legally persuable tort.[4] These are a breach of duty by the defendant, existence of damages, and proximate causality of the damages by the defendant as a result of the breach of duty. Under the classical theory of tort, if the plaintiff cannot prove that the defendant was the proximate cause of damages, then recovery is denied. Thus, if one of a group of defendants is known to be the party whose product has caused the damages, but whose exact identity is unknown and unprovable, then the plaintiff would be denied recovery. The doctrine of market-share liability is an attempt to solve this problem by reducing the requirements of proving that a causal relationship exists between a single correct defendant and the plaintiff.

The original doctrine of market-share liability was developed by the California Supreme Court in *Sindell* v. *Abbott Laboratories* as a result of the failure of the evidence to identify a single defendant as the party who produced a defective product, in this case DES. Market-share liability involves awarding damages to the plaintiff in proportion to the defendant's share of the relevant market. For example, a firm with 40 percent of sales in the relevant market would be liable for 40 percent of the total damages to plaintiffs injured by the firm's product. Under *Sindell*, if a firm could prove that its product was not involved in the accident, then it would be excluded from the relevant market and not be held liable.

The pertinent question is how the firm responds to this reduction in causality. The most plausable response would be for firms that produce safer products to track the use of their products more effectively in an effort to escape the payment of damages generated by firms that provide lower levels of product safety. To the extent that firms are able to track their consumers, they may escape the effect of *Sindell*. Thus, even as a general rule, *Sindell* may not have generated an excessive change in the provision of product safety but only increased the firm's paperwork. *Rexall* expands *Sindell* by requiring firms to pay in proportion to their market share *even if* the firm can prove that its product was not the product involved in the damages. Consequently, *Rexall* completely abandons causality between the provision of risky products and liability for the damages generated by these products.

[4]This section relies on Cooter and Ulen (1987).

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The Efficiency Implications of the Sindell–Rexall Rule

In this section we consider the general implications of the adoption of the S-R rule for the apportionment of damages. First, consider the implications for a representative firm. Under a system in which the firm pays for the damages generated by the use of its products, these damages will be incorporated into the firm's cost of production. The firm will allocate resources to the reduction of damages as long as the marginal cost of doing so is less than or equal to the reduction in damages. The firm will be driven to provide product safety as long as doing so generates more reductions in damages than increases in costs. This process of cost minimization will result in the efficient level of care being provided by the firm.

The S-R rule affects the firm by altering its perception of the benefits from the provision of product safety. Under the S-R rule, a dollar's worth of expenditures on product safety will not lower the firm's liability for damages by a dollar. Rather, damages will be reduced by a fraction of a dollar, that is, by a dollar times the firm's market share. Thus, the S-R rule reduces the benefit to the firm from the provision of product safety. With the decrease in benefits, the firm will reduce its provision of product safety until it is providing that level of safety for which the benefits generated through the reduction in damages are, at the margin, equal to the cost of product safety.

Consider a firm that is providing care to the point where the cost of providing care is equal to the reduction in damages from providing care, and both are equal to $1. Under the classical theory of tort, the firm would receive the entire benefit, $1, from the reduction in damages. If this firm has a 40 percent market share, then under the S-R rule the provision of the last dollar's worth of product safety would yield benefits equal to $.40. Since the firm is now spending $1 to achieve a $.40 reduction in costs, it will be in its interest to reduce the provision of product safety and reduce its cost by $.60. Thus, the S-R rule has the effect of reducing the provision of product safety.

The adoption of market-share liability also affects the relative costs of firms that provide high and low levels of product safety. Consider a market where two equal-sized firms are producing a product, one with a high level of product safety and the other with a low level of product safety. Under the classical theory of tort, the firm that produces the safer product will pay lower damages. The S-R rule, on the other hand, requires each firm to pay damages equal to its market

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share, which means each firm will pay 50 percent of the total damages. For example, if total damages were $3,000, each firm would pay $1,500; whereas under the classical theory of tort, the safer firm would benefit by paying say $1,000, while the more careless firm would pay $2,000. Thus, under the S-R rule, the high-safety firm experiences an increase in its cost while the low-safety firm experiences a decrease in its cost.

Under the classical theory of tort, a firm that provides a high degree of product safety will be absorbing damages that are less than the market average. The imposition of the S-R rule has the effect of forcing each firm to absorb damages as if its product were generating damages equal to the market average. This causes the costs of a high-safety firm to increase and leads to a reduction in its sales. Meanwhile, a low-safety firm will experience a fall in its costs as a result of the reduction in its share of total damages under the S-R rule. As a result, firms with low levels of product safety will find their sales increasing. Hence, the adoption of the S-R rule will expand the sales of low-safety providers and decrease the sales of high-safety providers.

Market structure has an obvious bearing on the firm's perception of damages under the S-R rule. If there is only one firm in the market, its market-share liability is unimportant because the firm absorbs all costs and benefits related to its product. At the other extreme, as the number of firms increases and market shares decrease, firms will have less incentive to take account of the damages they incur from unsafe products; thus, these firms can be expected to provide smaller amounts of product safety than firms in more concentrated industries. At the limit, the competitive firm's market share will be so small that its provision of product safety will have little or no impact on its payment of damages.

In the case of oligopolistic markets, a more interdependent model of the firm's behavior is needed to ascertain the impacts of market structure on the firm's perception of damages. But even in the presence of high levels of recognized firm interdependency, the effects of the adoption of the S-R rule would still be to reduce the perceived marginal benefits of the provision of product safety, to increase costs for high-safety firms, and to reduce costs for low-safety firms. Thus, with the exception of classical monopoly, market-share liability will reduce the provision of product safety, increase the risks of consumption, and result in larger damage claims.

Conclusion

The establishment of market-share liability appears to serve neither the cause of economic efficiency nor that of minimizing the harm

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to product users. It provides an incentive for all firms to shirk while reducing the costs of firms with low product safety. These two factors will reinforce each other and likely lead to an increase in damages. If the S-R rule is limited to those firms that deal with long-term latent risks of a chemical nature, such as DES and asbestos, its impact may well be restricted to the chemical and pharmaceutical industries. The more interesting questions are whether the S-R rule will be extended to other types of products and whether causality will be completely abandoned when determining liability. Either of these results will increase the risk of consumption and the damages that result.

The policy question is whether the single-minded pursuit of compensation, regardless of who is required to pay, is acceptable. Not only does the abandonment of causality raise serious equity questions, it also discourages the pursuit of product safety. Do the courts really expect a liability system that rewards low-safety firms—by reducing their costs of production—to provide safer products? It seems more likely that market-share liability will reduce product safety by all producers and increase the output of low product safety providers.

The rule of market-share liability also raises questions with respect to the efficiency of tort law. Indeed, the establishment and spread of a clearly inefficient rule does not portend well for those who contend that the tort system is efficient. However, this question is not settled. The result will depend on whether the market-share liability rule spreads to other areas. However, if the tort system is efficient, then the S-R rule will eventually be conscribed to the dust bin of history.

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BOOK REVIEWS

Cross of Gold: Money and the Canadian Business Cycle, 1867–1913
Georg Rich
Ottawa, Canada: Carleton University Press, 1988, 307 pp.

Someone who picks up Georg Rich's book expecting to find an anecdote-filled polemic against the gold standard (or perhaps organized religion!) will be sadly disappointed. Instead they will find a painstaking and rigorous inquiry into the functioning of the pre–World War I (1867–1913) gold standard in Canada.

There are four principle findings. First, the stock of money moved procylically in Canada during the gold standard period. In Rich's view this exacerbated the business cycle generated by nonmonetary forces. So at least on this criterion the gold standard gets bad marks. This finding is based primarily on a comparison of peaks and troughs in the levels of the money stock with the peaks and troughs in the business cycle. Previous researchers, Keith Hay (1967) and George Macesich (1970), using the techniques developed by Milton Friedman and Anna Schwartz for the United States, emphasized the finding that peaks in the rate of change of the money supply led the cycle.

Second, the procyclical behavior of the money stock was due to the procyclical movement of bank reserve ratios. Rich is generally critical of the banks for taking an accommodative stance, although he does allow that the willingness of the Canadian banks to accommodate an increased demand for money may have had a positive effect during periods of financial stringency.

Third, the monetary base moved countercyclically, much as the classical theory of the gold standard predicts. The balance of payments was the key. During expansions rising imports led to a balance-of-trade deficit and an outflow of gold. The problem was simply that movements in the base did not fully offset the effect of the fall in reserve ratios, so the behavior of the money supply did not mirror that of the base. The government of Canada did issue notes, and part of the issue was not covered by gold. But discretionary monetary policy played a small role in determining fluctuations in the monetary base, particularly after 1885.

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Fourth, interest rate movements in Canada were damped in comparison with the United States, again due to the willingness of banks to make additional loans during expansions. The author believes that interest rates are the major channel through which money influences the economy. Thus, banks actually added to the severity of the business cycle by keeping interest rates on an even keel.

The difference in the behavior of interest rates between the United States and Canada uncovered by Rich deserves further study. The conclusion is based on a variety of interest series including interesting comparisons of call loan rates, and of the average return on loans earned by Canadian and foreign branches of the Bank of Nova Scotia. It is possible that differences in the way the interest series were constructed are the explanation, but Rich has done yeomen work in digging out alternative interest rate series. Is the explanation, then, to be found in the structure of the Canadian banking system, in the organization of financial markets, or as I would conjecture, in the cyclical variability of real income itself since real GNP was less variable in Canada than in the United States. Of course, if the latter explanation turns out to be the right one, the difference in the variability of interest rates would not be a key link in the explanation of the difference in the amplitude of the business cycle in the two economies.

Together Rich's findings alter, somewhat, the picture developed by Jacob Viner (1924) who saw the experience of Canada as confirming, for the most part, the traditional theory of the gold standard. Indeed, among the older writers Rich's emphasis on the role of bank reserve ratios is most reminiscent of the views of R. G. Hawtrey (1933).

How important are these findings as a criticism of the gold standard? They are consistent with recent studies of the United States and other countries that stress the short-run instability of prices and real output during the gold standard era, and in that sense add to the case against the gold standard. But supporters of the gold standard can still point to the traditional strengths of the system. First, it should be noted that even under alternative monetary standards there might well have been procyclical movements in bank reserve ratios. It is by no means certain that a central bank operating through a gold standard or through fiat money would have done a better job of managing the monetary base. The chief claims for the gold standard, moreover, are longer run. Long-run price stability, for example, was maintained in Canada. The price level fell by only 3 percent per year in Canada from 1870–71 to 1895–96, and rose by only 2.1 percent per year from 1896–97 to 1912–13, an experience similar to other countries on the gold standard. The gold standard, while it permitted modest inflations, proved to be a bulwark against the kind of runaway inflation that can occur under a pure fiat standard.

There is also an interesting chapter on the Crisis of 1907 in Canada, linking it to events in New York. Surprisingly, previous writers have

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looked at the Canadian case as an internally generated phenomenon. Rich's explanation appears far more convincing. As he sees it, the key actors were Canadian exporters. Unable to discount bills in New York during the panic, they ran down their own deposit accounts, transferring the pressure to the Canadian banking system.

In the course of his study Rich developed several new series on interest rates, the balance of payments, and the money supply that will be of interest to monetary historians. Undoubtedly, these series will prove to be among the most important contributions of the volume.

Finally, a minor complaint: There is no index, and there are no page numbers in the lists of tables and charts. These omissions make it hard to find information without a prolonged search of the text.

This book, I believe, will have a long academic life. Canadian economic historians will naturally find the book of interest. And students of the monetary history of other countries, the United States in particular, will find the additional perspective provided by this able study of Canadian money and banking during the gold standard era extremely useful.

Hugh Rockoff
Rutgers University

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Money: Lectures on the Basis of General Equilibrium Theory and the Economics of Institutions
Rudolf Richter
Translated from the German by Wolfgang F. Stolper
Berlin: Springer-Verlag, 1989, 399 pp.

Systematic treatises are not so common in economics now as they were before mid-century. In the "secondary currency community" of academic economics (to apply a term of Rudolf Richter's by way of analogy), the journal article is the unchallenged unit of account; whereas, in the "primary currency community," it is the dollar; and textbooks, not monographs, are the stock in trade. Richter's lectures bow to fashion by posing as a quasi-textbook. In reality, they have been fashioned into the rare treatise on money. They are an extended effort to marry the theory of general equilibrium with the new institutionalist economics, which

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attempts to derive the structures of firms, trading relations, and such like as the outcome of individual optimization in the face of transactions costs and constraints imposed by legal and political institutions.

Richter's format is in the tradition of some of the great treatises in monetary economics: Wicksell's *Lectures;* Hicks's *Value and Capital;* and Patinkin's *Money, Interest, and Prices.* Before tackling money directly, Richter reviews the rudiments of general equilibrium and capital theory. In this there is no novelty: His neat summary of the determination of relative prices is drawn from standard textbooks; and, despite the use of overlapping-generations models, his capital theory comes directly from Irving Fisher. What is unusual in these preliminaries is Richter's extensive survey of the economics of institutions. Here he lays the foundations for the central notion of his book: the *currency order.*

The currency order comprises the elements *sine qua non* of money as an institution. There is a "bookkeeping order," which defines the unit of account and the means of payment, and, in parallel form, there is a "value safeguarding order," which establishes the price target (regulating the unit of account) and the mechanism for supplying the means of payment. The currency order is a useful pedagogical device. It reminds us that abstract models (formal or informal) require adequate accounts of their institutional foundations if they are to illuminate concrete monetary problems. Richter demonstrates the power of the currency order, to take one example, in his discussion (pp. 131–32) of the Black-Fama-Hall system. He shows, contrary to Greenfield and Yeager, that the government cannot establish a working monetary system simply by declaring a particular basket of goods to be the unit of account. If a monetary system is to function, either the government must supply and regulate some general means of payment or one must arise spontaneously from the private sector. Using the currency order as a checklist prevents one from forgetting some key elements in monetary systems. Richter goes on to use the currency order as part of a comprehensive survey of monetary theory, touching on *inter alia* competitive currencies, exchange rate management, the optimal quantity of money, gold and paper standards, and the structure of banking firms. He spends a good deal of space matching the features of successive models to the currency order. Although there are no new insights proportional to the tediousness of the succession of formal models, Richter succeeds in giving a unified treatment to topics that are usually treated in a rather higgledy-piggledy manner.

The main weakness of Richter's book is that the marriage he has brokered between the economics of institutions and general equilibrium is an unhappy one. This is foreshadowed in the first chapter. There, Richter pointedly dismisses the problem of general equilibrium; he adopts index numbers as a theoretically acceptable (rather than practically necessary) shortcut to the value of money; he assumes that, for monetary theory, relative prices can be taken as given; and he dismisses

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the "Patinkin controversy" as of but historical interest. The Patinkin controversy—how relative prices are determined in a monetary economy—remains *the* fundamental problem for monetary theory. Frank Hahn showed in 1965 that, unless special assumptions are made (e.g., fixed relative prices or no distribution effects), a model of money such as Patinkin's, in which money is valued only because it is valuable, has two flaws: (1) If there is a monetary equilibrium, then there is also a barter equilibrium (i.e., money is not essential); and (2) in general, there is no monetary equilibrium.

The usual story used to rationalize the general-equilibrium model is that there is an auctioneer (Walras) or an institution of recontracting (Edgeworth) so that there is no trading outside of equilibrium. These mechanisms not only determine relative prices, but ensure that there are no barriers to the execution of trade: Every buyer finds a seller and vice versa. The upshot of Hahn's attack on Patinkin is that, if money is modeled without specifying in detail *how* it acts to reduce transactions costs, the existence of equilibrium is threatened. Since Hahn's paper, an important project (largely unnoticed by Richter) in monetary theory has been to give better accounts of the mechanisms through which money facilitates trade and through which equilibrium is established. Richter takes his brief to be money in equilibrium. By concentrating on money at rest rather than on money at work, and by adopting strong assumptions (such as one-good economies) that short-circuit Hahn's criticisms, Richter skirts the really difficult problems in monetary theory. The marriage between the economics of institutions and general equilibrium theory is unhappy because it is unconsummated. Rather than being used as a checklist, the currency order should stress the interaction of its elements at a deeper level and should have been used to expose the shortcomings of the (implicit) institutional foundations of the general equilibrium model.

Reservations aside, Richter's treatise is a welcome relief from the common currencies of monetary economics. It presents a splendidly annotated guide to standard and nonstandard topics in both the English-language and the German-language literature. It is sprinkled with numerous interesting historical notes. As a readers' guide to monetary economics, Richter's *Money* is, and likely will remain, a useful book.

Kevin D. Hoover
University of California, Davis

The Political Economy of James Buchanan
David Reisman
College Station: Texas A&M University Press, 1990, 204 pp.

Can a quarter of a century already have passed since I first met James M. Buchanan? As his colleague at the University of Virginia when public choice (as it came to be called) was in its infancy, I was privileged to

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participate in the discussions and witness the formation of a fresh way of thinking about politics and economics. A new paradigm was being born. It was a tremendously exhilarating time to be an economist at Mr. Jefferson's University, although the intellectual excitement was brought to an abrupt halt when the administration refused to promote Buchanan's closest associate and collaborator, Gordon Tullock. Buchanan, in protest, departed for UCLA. Thus it was that the University of Virginia lost its chance for a Nobel Prize. Buchanan later moved to Virginia Polytechnic Institute and then to George Mason University where he continues to turn out profound technical and philosophical manuscripts at a dizzying rate.

Buchanan was awarded the Nobel Prize in Economics in 1986. Since that time, I have often been asked by people who know of my interest in his work, which single book of his they should read to understand the essence of his contributions. Up to now I have been stumped. There was no single work of Buchanan's that contained the Buchananian system. I was not even sure that there was such a system; indeed Buchanan would probably deny that one existed. He always claimed, after all, that he had only been clarifying ambiguities, dispelling confusions, and exploring neglected areas of analysis in the work of his fellow economists and philosophers. He seemed to have no underlying motivation to create a single, unifying, coherent system of economics. His work consisted of many glittering but scattered gems not neatly structured into a form-giving tiara. There was his book *Public Principles of Public Debt* (1958) that challenged the Keynesian orthodoxy of debt finance as exemplified in the work of Keynes's disciple, Abba Lerner. This work can be best summarized under the epigram, "We owe it to ourselves." His collected essays in *Fiscal Theory and Political Economy* (1960) were devoted to integrating economic and political theory in the body of fiscal doctrine. This book contained a masterful survey and interpretation of the Italian tradition in fiscal theory in which Buchanan contrasted the organismic and individualistic approaches to fiscal decisionmaking. The latter was to play a stellar role in his work in public choice and constitutional economics. *The Calculus of Consent* (1962) could be interpreted as a brilliant attempt to examine the structure of politics. *Cost and Choice* (1969) clarified ambiguities in terminology and confusions in analysis in standard economic theory, especially regarding the meaning of opportunity cost. And so on through *Academia in Anarchy* (1970), *The Limits of Liberty (1975), The Power to Tax (1980), The Reason of Rules (1985),* and many others. Each stood on its own as an important contribution to economic philosophy. But one was hard pressed to point to one work that could present the essence of Buchanan's vision of social order.

This small book by David Reisman has now made it possible to send an inquirer to a single volume that puts Buchanan's contributions into a coherent framework. Moreover, it does so better than any one or even several volumes by Buchanan himself. It is a fine achievement, being an

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admirable summary of Buchanan's main writings placed into a setting that brings out the essential coherence of his work. After reading this book, I have come to believe that Buchanan, however unconsciously, was from his earliest writings attempting to construct a unified system of political economy after all.

In addition to the introduction, the book is divided into seven chapters that organize Buchanan's work, not chronologically, as a less analytical or less energetic writer might have been tempted to do, but logically. It starts where any work on Buchanan must start: with Buchanan's methodological individualism, because that is the only perspective from which Buchanan can view the world. That perspective provided him with a profound understanding of the process of exchange, the gains from trade, and the importance of voluntary contract. Buchanan's key insight—that the political process is a political *market*—would have been impossible had he accepted the centrality of the allocative paradigm of orthodox economics. Here Reisman does a fine job of comparing and contrasting Buchanan's political philosophy and methodology with that of John Rawls and Robert Nozick. The role of Pareto optimality in Buchanan's analysis of constitutional choice, his surprising defense of vote-trading or logrolling, the crucial distinction between the constitutional and the postconstitutional levels of political interaction, the requirements for moral order and social stability, the role that the Keynesian revolution played in undermining the fiscal constitution, the rejection of both anarchy and Leviathan as alternative political settings within a democracy—all of these elements (and more) of Buchanan's thinking are integrated in such a way as to show the relation of each to the whole. Moreover, Reisman does not neglect the moral dimension of Buchanan's philosophy, nor does he ignore Buchanan's dissent from his fellow economists who, clinging to the maximization paradigm, indulge in "piddling trivialities," thereby opting out of their essential responsibilities to the moral science of political economy.

One finishes this tract with a renewed confirmation that the searching and important questions raised by James M. Buchanan, and the answers he has provided, place him among the ranks of the most distinguished social philosophers of our time.

William Breit
Trinity University

Black Hole Tariffs and Endogenous Policy Theory
Stephen P. Magee, William A. Brock, and Leslie Young
Cambridge: Cambridge University Press, 1989, 438 pp.

This book dates from an early working paper by Brock and Magee (1974), which showed great promise and has now borne much fruit. In the interim, Peltzman (1976) published his famous paper on "Economic Regulation," which had more structure and content than the early Brock

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and Magee papers and hence subsequently captured the citation market in this area. This book, written with Young, fulfills the promise of the early Brock and Magee papers, however, and it will certainly take its place as a leading contribution to the literature using economic theory to explain political actions.

The book has far too much substantive content to be adequately covered in a short review. The authors first present a partial equilibrium theory of endogenous tariffs, replete with theories of lobbying, interest groups, political parties, campaign contributions, electoral outcomes, and voters (chapters 3–8). This part of the book ends with an empirical test of the authors' theory, the conclusion of which can be viewed as confirming the Shakespearian axiom of "Let's kill the lawyers." In chapters 9–16, the authors convert their theory to general equilibrium terms. Included in these chapters is an important chapter on black hole tariffs, or rent-seeking processes, that can lead to economic depravity and maximal waste. In chapters 17 and 18, the authors conclude by considering the reasons for the misleading political rhetoric of the public interest in the design of wealth transfers.

I will restrict myself to one or two comments on each part of the book. My own interests ensure I will be naturally attracted to the partial equilibrium endogenous tariff theory. But this part of the book would have been better if the authors had tested more of the implications of their theory. They do go to considerable efforts to point out many of the testable implications of their theory; the project would have been helped by a few actual tests. For example, the authors derive a result that suggests that senators will be more protectionist than representatives from the same state because interest-group pressure tilts toward more protectionism in the larger jurisdiction. An alternative hypothesis is that senators who represent both importers and exporters in a state will be more disposed to free trade than isolated representatives who support selected local interest groups. It would be easy enough to test the authors' hypothesis by looking at voting records, and there are numerous other examples like this in the book. The test using lawyers in chapter 8 is amusing, but hardly the type of test to inspire confidence in the basic outlines of the theory. Of course, you cannot do everything in one book, and the authors surely have dissertation students at work even now.

The second part of the book turns to an analysis of politics, lobbying, and tariffs in a general equilibrium setting. Such an extension of the authors' theory is useful in that it brings public choice issues to an inherently alien landscape. The centerpiece of this section is the authors' discussion of so-called black hole tariffs, where rent seeking and lobbying lead to almost total dissipation of societal wealth. As a theoretical possibility, black hole tariffs are interesting; as an empirical phenomenon, they are probably an empty economic box. The economic literature attempting to model rent-seeking processes is all over the block with respect to predicting super, exact, or minimal dissipation. Black hole

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tariffs are obviously a case of super-dissipation. My guess, however, is that the profession will eventually come down on the side of minimal dissipation. After all, economic agents have incentives to convert costs to transfers wherever and whenever possible. Thus, though I cannot offer a guarantee, rent-seeking costs may in the final analysis be quite low in most societies. Tactically, then, Magee, Brock, and Young may later regret their choice in staking out a position closer to super-dissipation.

The final part of the book deals with the optimal design of wealth-transfer policies. There is nothing new or remarkable here (except to note that we *do* redistribute a lot of wealth in bald, cash terms).

My job has been to be a critical reviewer, but my basic reaction to the book is one of admiration. It is a fun book to read; it is easy to follow; the bibliography is copious; the mathematical appendices (100 pages) are elegant; in a word, the book is a treatise. I suspect that the impact of the book will be substantial, especially in teaching young economists how to model politics and economics simultaneously. All in all, Magee, Brock, and Young should be congratulated on a job well done.

Robert D. Tollison
George Mason University

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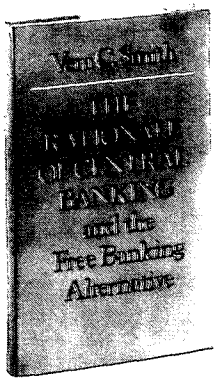

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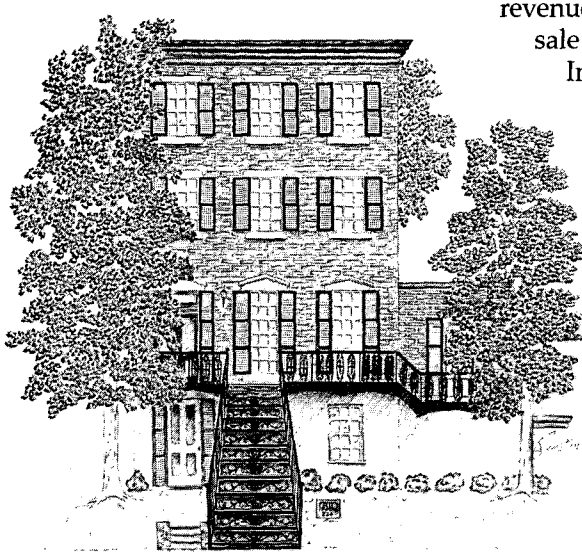

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LIBERALIZATION OF MONEY AND MARKETS

Unless European countries are prepared to give up money as an instrument of policy, the only kind of monetary unification we can hope to achieve is that which will spontaneously arise from the liberalization of markets.

—**Antonio Martino**

Wall Street Journal/Europe,
26 June 1989.

The Eurocrats in Brussels seem to believe that nothing good can happen unless it is planned and directed from the center. But a spontaneous, uncoordinated harmonization would occur in a genuine free-trade area—a process that would lead to a leveling down, rather than a leveling up, of taxes and regulation.

—**William A. Niskanen**

Cato Policy Report 11
(March/April 1989): 2.

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